EXPLORATION OF NORMALIZATION: A CONSTRUCT FOUNDATIONAL TO MONTESSORI TEACHER EVALUATION

by

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Abstract

Scholarly literature lacks research on teacher evaluation in a Montessori context. This is problematic as classroom observation, a common form of evaluation, is subjective even with valid and reliable measures. Further, Montessori's holistic, child-centered approach does not utilize conventional student assessment tools such as standardized tests, thus, teacher effectiveness cannot be tied to student achievement scores, nor can such scores validate classroom observation ratings. A needs assessment found that Montessori administrators and teachers lack consensus on a central tenet of Montessori pedagogy – normalization – and how teachers can foster normalization. The lack of consensus on these two issues lies at the root of the Montessori teacher evaluation problem of practice. Thus, using a community of practice model and the teacher efficacy theoretical framework, this study explored 1) establishment of a community of practice oriented towards mapping normalization to self-regulated learning theory, 2) changes in Montessori teachers' and administrators' perceptions of normalization through this process, 3) changes in perceptions of how teachers can foster student normalization, and 4) perceptions of the community of practice itself. Findings revealed 1) a gap between theory and practice regarding normalization that adversely affected teacher efficacy beliefs, 2) normalization mapped to self-regulated learning, and 3) a community of

practice professional learning model was effective in changing teacher efficacy beliefs surrounding normalization as well as teachers' and administrators' perceptions of normalization and how to foster normalization and self-regulation in students.

Dedication

This work is dedicated to Montessori practitioners all around the world. The complexity of your work and the passion with which you approach it is both humbling and awe-inspiring. My hope is that this study and my future work provides support for your complex practice and helps to fan the flames of your passion so that children may continue to benefit from all that you do for years to come.

Acknowledgments

I have spent the past four years engaging in what Maria Montessori referred to as "great work" – work upon which one must "concentrate and consecrate his entire being" (Montessori, 2007, p. 36). However, I did not do this great work alone. Many people were involved in preparing the environment either directly or indirectly so I could complete this work to the best of my abilities.

First and foremost, I wish to thank my husband, Greer, and our two children, Cedric and Rhys, for providing me the support, encouragement, and time necessary to engage in this great work. You made our home a place where deep concentration is respected, much like a Montessori classroom. This not only allowed me to complete this great work, but to further construct my self. It is a gift that is truly priceless and for which I will be forever grateful. I love you all with every part of my being.

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Executive Summary

Teacher evaluation is a complex problem involving multiple issues. Specific issues include how to define teacher effectiveness (Goe, Bell, & Little, 2008), how teachers' content knowledge and pedagogical knowledge contribute to a teacher's effectiveness (Ball, 2000; Ball, Thames, & Phelps, 2008; Shulman, 1986), and how administrators can reliably determine a teacher's effectiveness through classroom observation (Danielson, 2007; Sartain et al., 2011). To address these issues, education researchers fill the scholarly literature with studies suggesting potential solutions. However, such studies are always conducted within the framework of conventional education, limiting the applicability of constructs developed within the research to alternative educational frameworks such as Montessori. Currently, no available research relevant to teacher evaluation within a Montessori educational context exists. This absence of research literature specific to Montessori teacher evaluation practices, coupled with the lack of an Association Montessori Internationale (AMI) protocol for teacher evaluation, leaves individual schools with the task of creating their own evaluation systems, which are likely to be neither valid nor reliable.

Within the Montessori communities, Montessori is more than an educational system, it is an "aid to life" (Montessori, 1976/2008, p. 17). As such, the Montessori

approach to development begins at birth and spans through adolescence. Its approach is holistic and child-centered, and Montessori schools typically lack conventional student assessment tools such as standardized tests (Lillard, 2007). This approach and lack of testing makes evaluating teachers even more complex in a Montessori context as teacher effectiveness cannot be tied to student achievement scores, a common variable in teacher evaluation systems in conventional education.

Adding to the complexity of Montessori teacher evaluation, a needs assessment showed that Montessori-trained teachers and administrators have differing conceptualizations regarding student behaviors important to normalization – a central tenet of Montessori education that describes a process of transformation whereby behaviors that hinder a child's learning and development are replaced with a love work, concentration, discipline, and high sociability (Montessori, 1967a). Further, this same needs assessment also found that Montessori-trained teachers and administrators lack agreement as to the teaching practices that foster normalization (Shaw, 2014). These two issues regarding normalization are at the root of the Montessori teacher evaluation problem of practice. Administrators utilize classroom observation procedures to observe teachers' behaviors and students' normalized behaviors to determine teacher effectiveness. However, without a shared understanding of normalization and how teachers should foster the same, the effectiveness of a Montessori teacher evaluation system is questionable (Danielson, 2012). Thus, administrator and teacher consensus as to which behaviors demonstrate a normalized student, and how teachers should foster student normalization is imperative.

Exploration of Normalization

To reach consensus on student behaviors important to normalization and how to foster normalization, Montessori administrators and elementary teachers working within an Association Montessori International/USA (AMI/USA) recognized school participated in a pedagogical development program grounded in a community of practice (Wenger, 1998) and explored normalization through the lens of teacher efficacy theory (Ashton & Webb, 1986). A community of practice provided an environment in which meaning could be effectively negotiated amongst all community members (Wenger, 1998). The newly negotiated meaning then theoretically contributed to teachers' efficacy beliefs (Takahashi, 2011), which potentially influenced their classroom behaviors (Ashton & Webb, 1986; Gibson & Dembo, 1984; Woolfolk, Rosoff, & Hoy, 1990). Reaching consensus regarding student normalization, its relationship to self-regulation, and teacher behaviors that foster normalization and self-regulation led to a clear understanding of what is expected of teachers and what could be evaluated.

Using an exploratory ethnographical approach, three Montessori elementary teachers and an administrator participated in biweekly formal community of practice meetings and informal one-on-one interview meetings with a participating researcher over a period of six months to negotiate the meaning of student normalization in relation to self-regulation (Montessori, 1967a) and explore how teachers can foster normalization. Because there is a lack of research examining student normalization within the scholarly literature, participants also explored whether or not their newly negotiated meaning of normalization mapped to self-regulated learning, a theory grounded in empirical research (Zimmerman, 1990a; Zimmerman, 2006; Zimmerman & Pons, 1986). Self-regulated

learning theory is a natural choice for normalization because the student behaviors normalization theory generally describes (Montessori, 1967a) correlate with the self-regulated learning process, which involves students' activation and maintenance of behaviors, affects, and cognitions necessary to achieve learning goals (Schunk & Zimmerman, 2008; Zimmerman & Pons, 1986). Implications for teacher evaluation were discussed briefly at the end of the six-month intervention in light of this newly formed conceptualization of normalization and self-regulation.

Methods of Analyses

Data for this study included 1) pre- and post-Teachers' Sense of Efficacy Scale long form (TSES; Tschannen-Moran & Hoy, 2001), which was converted from a Likert-type scale to constructed response items, and 2) transcripts and notes from individual interviews and group community of practice sessions. The TSES was chosen as it captures three dimensions of teacher efficacy – efficacy for facilitating instructional strategies, efficacy for garnering student engagement, and efficacy for classroom management (Tschannen-Moran & Hoy, 2001). Additionally, all three dimensions appear to capture important aspects of self-regulated learning, including student motivation, student behaviors, and student beliefs (Perry, Hutchinson, & Thauberger, 2008).

All data were coded in NVivo, a qualitative data analysis software, using theory-generated codes based on the research questions (see Table 7, chapter 4), and emergent codes arising from the data (Saldana, 2009). After, "intimate engagement" with the data, as recommended by Marshall and Rossman (2011, p. 210), three major themes emerged: 1) normalization as a continuous developmental process, 2) normalization in relation to self-regulation, and 3) changes in teachers' efficacy beliefs and behaviors.

Findings

The pedagogical development program achieved its purpose: it explored 1) the creation of a community of practice oriented towards mapping normalization (Montessori, 1967a) to self-regulated learning theory (de Boer, Donker-Bergstra, Kostons, Korpershoek, & van der Werf, 2013; Zimmerman & Pons, 1986), 2) Montessori trained elementary teachers' and administrators' beliefs and behaviors surrounding normalization, 3) changes in their perceptions of normalization, 4) changes in those participants' perceptions of how teachers can foster student normalization and self-regulated behaviors, and 5) their perceptions of the community of practice itself.

Additionally, the pedagogical development program enabled completion of tasks never before attempted in a Montessori pedagogical development program:
1) administrators and teachers operationalized and reached consensus on normalization, a foundational yet elusive construct important to Montessori teacher evaluation (Montessori, 1967a), 2) normalization was mapped to an existing construct within the scholarly literature, self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986), and 3) teachers' reported practices shifted from a teacher-directed perspective – as in what a teacher should do to a student to foster student normalization – to a more student-inclusive perspective after the program.

Findings related to normalization and self-regulation and the community of practice and mapping process are summarized below.

Normalization and self-regulation – conceptualization, beliefs, and practices. This study found that normalization (Montessori, 1967a) is open to subjective interpretation. This means that a teacher's preference for certain behaviors, such as

silence or efficiency can actually determine what normalization looks like in students for only that teacher. Further, normalization's subjective nature can also lead to Montessori teachers confusing normalization with other behaviors. Teachers may assume, for instance, that quiet or well-behaved students are normalized when, in fact, they may not be.

This study also found a gap between theory and practice. What teachers learn in theory during Montessori training is that normalization is a transformation of the personality that occurs within a critical period of development (birth through age six) and "remain[s] stable across time and culture" (Lloyd, 2008, p. 66); however, this is not what they experience with students in practice. Rather, in practice, participants in this study found normalization to be a developmental process that occurs during the elementary years and beyond. The normalization process is also influenced by context, which includes the expectations of adults within each context. Thus, there is variability of normalized behaviors across contexts. Additionally, normalization is also influenced by students' engagement in concentration during the elementary years and even during adulthood, as some trainers may use concentration to normalize their Montessori teacher trainees. This finding is contrary to Montessori theory, which suggests that concentration is the path to normalization only during the critical first plane of development, birth through age six (Montessori, 1967a). Finally, this gap between theory and practice regarding normalization places schools in the position of having to mitigate it, as this can adversely affect teachers' efficacy beliefs and, hence, their classroom practice. If teachers do not believe that students are capable of normalization during the elementary years, they are less likely to persist in the face of challenges (Ashton & Webb, 1986).

The process of mapping normalization to self-regulated learning provided participants the opportunity to operationalize normalization, helping them to reach consensus as to which student behaviors are important to student normalization. After completing the process of mapping normalization to self-regulated learning, participants' initial consensual conceptualization of normalization changed to include knowledge and strategies from self-regulated learning theory (de Boer et al., 2013; Zimmerman & Pons, 1986), making a somewhat elusive construct more tangible and concrete for the participants.

In addition to changing participants' perceptions of normalization, the program also changed their perceptions of how to foster student normalization. Analyses of pre- and post-program responses to the Teachers' Sense of Efficacy Scale (TSES), which was converted to constructed response items, showed that after the completion of the program, teachers engaged students more frequently in self-regulated learning strategies, such as self-evaluation and self-reflection (de Boer et al., 2013; Zimmerman & Pons, 1986) and created more of an overall high self-regulated learning classroom environment (Perry, 1998; Perry, VandeKamp, Mercer, & Nordby, 2002). Essentially, teachers' reported practices shifted from a teacher-directed perspective – what a teacher should do to a student to foster student normalization – to a more student-inclusive perspective after the program. The mapping process helped to facilitate this change by providing opportunities for participants to engage in verbal persuasion experiences (Bandura, 1997) regarding self-regulated learning strategies, thus, increasing their teacher sense of efficacy (Ashton & Webb, 1986) with respect to normalization (Montessori, 1967a) and self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986).

With respect to teacher evaluation, participants did not have sufficient time to discuss this issue in depth. However, participants did acknowledge that classroom observations are highly subjective (Ho & Kane, 2013; Sartain et al., 2011), and a lack of consensus regarding normalization can further exacerbate that issue (Danielson, 2007), rendering any Montessori teacher evaluation system invalid and unreliable.

Participants also expressed excitement that this program, which was prompted by the Montessori teacher evaluation problem of practice, provided them with language they can use to describe normalization to those who are not Montessori trained. Building connections outside of Montessori is an important goal for these participants.

Finally, it should be noted that because participants had few opportunities to engage in interactions outside of the formally scheduled community of practice meetings due to other school commitments and responsibilities, it can be surmised that the change in teacher efficacy beliefs is largely due to this pedagogical development program and the verbal persuasion experiences it provided.

Community of practice and mapping process. A community of practice was established during the program as all of the following criteria were met: 1) members have a shared identity, 2) members learn from one another through information sharing via activities and discussions, and 3) members share resources for their shared practice (Wenger, 2011). Additionally, participants stated that the pedagogical program group meetings felt like an extension of their existing community of practice within their school, further supporting the finding that the program successfully established a community of practice. Participants also expressed that the value in this program's meetings was having the time to explore normalization more deeply and map it to an

existing construct that they can use as a framework not just for normalization but also for students' overall learning process. The program also introduced participants to the self-regulated learning strategies (de Boer et al., 2013; Zimmerman & Pons, 1986), which teachers can employ to foster student normalization.

However, the process of mapping normalization to self-regulated learning raised concern amongst the Montessori trained participants that they might be changing or contradicting Association Montessori Internationale (AMI) pedagogy. To alleviate this concern so participants could move forward with the mapping, participants opted to contact AMI trainers to obtain their views of normalization. The trainers' differing responses not only reaffirmed the subjective nature of normalization and the need for teachers and administrators to reach consensus on it, but the responses also reassured participants that their claim that normalization mapped to self-regulated learning theory was not counter to those with higher authority within AMI.

Implications

Overall, the process of mapping normalization and self-regulated learning was highly effective. Not only did it provide ample opportunities for participants to engage in rich discussion about both normalization and learn about self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986), but it also provided opportunities for verbal persuasion experiences (Bandura, 1977). Additionally, the self-regulated learning framework appeared to orient teachers towards all aspects of the learning process rather than just the initiation of work phase. As one participant noted, teachers often focus on getting children to engage in work, sometimes forgetting that even once engaged, those students may not be challenging themselves; such children can easily fall through the

cracks (Hattie, 2009) within a Montessori classroom. The self-regulated learning framework, however, can provide teachers with a guide to all of the learning phases to help ensure no students are falling through the cracks. Further, the participants' final map of normalization and self-regulated learning, along with consistent student observation, can help teachers better assess student behaviors so they can better support students' learning needs.

While this study does not create a Montessori teacher evaluation program, it does provide a foundation from which a comprehensive program can eventually be created. It also has implications for practice and the Montessori community in general as discussed below.

Self-regulated learning theory confirmed in Montessori setting. Participants in this study found that normalization (Montessori, 1967a) maps to self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986), though normalization reaches beyond academic learning, as one of its main purposes is to help children grow to become contributing societal citizens (Montessori, 1967a, 1989a). Thus, this study contributes to the self-regulation theoretical literature as it affirmed self-regulatory constructs within the Montessori normalization framework (Montessori, 1967a). It also showed that self-regulated learning strategies can be successfully integrated into a multi-age classroom setting (de Boer et al., 2013; Zimmerman & Pons, 1986).

Further, this study also has the potential to offer the Montessori literature and communities a body of research that supports Montessori practice. Because this study found that normalization maps to self-regulated learning, and research shows that self-regulated learners consistently challenge themselves and achieve academically (Abar &

Loken, 2010; Ozkal, 2013; Zimmerman, 1990a), Montessori teachers and administrators can use this research to support claims that their students are achieving despite not having test scores nor grades. Finally, self-regulated learning can provide a framework that makes the elusive construct of normalization more concrete to Montessori teachers, providing strategies that foster normalization (de Boer et al., 2013; Zimmerman & Pons, 1986).

Teacher professional development. Reaching consensus about normalization should be done across the Montessori community. Not only will it help to create a valid teacher evaluation system, it will also help to improve teachers' practice. Implications for practice specific to teacher professional development are discussed below.

Teacher efficacy. Analyses of the teachers' pre- and post-program responses to the converted TSES found that participants showed increased use of self-regulated learning strategies (de Boer et al., 2013; Zimmerman & Pons, 1986) after the completion of the program. Thus, schools engaging in this pedagogical development program may see a change in their teachers' practice that increases student normalization due to a qualitative change in teacher efficacy beliefs.

Further, this study also adds to the teacher efficacy literature as it shows that teacher efficacy beliefs may be adversely affected by the gap between theory and practice. Student learning should not be compromised because teachers are subjectively conceptualizing normalization. Thus, Montessori schools need to be aware of this gap so they can mitigate it through a combination of vicarious and verbal persuasion experiences and emotional support (Bandura, 1977).

Teacher evaluation. Mitigation of the theory-practice gap is relevant to teacher evaluation, as good teacher evaluation does not merely evaluate, it also supports personal teaching efficacy development (Danielson, 2012; Tschannen-Moran & Hoy, 2007), which influences teacher behaviors (Ashton & Webb, 1986; Gibson & Dembo, 1984; Tschannen-Moran, Hoy, & Hoy, 1998). Thus, understanding the impact of teaching efficacy beliefs on practice could better inform the teacher evaluation process in any educational context, providing ways to determine teachers' efficacy beliefs so administrators can be more supportive and retain good teachers.

Classroom observation variability. Due to the validity and subjectivity issues of classroom observations (Ho & Kane, 2013; Sartain et al., 2011), all Montessori teachers and administrators, and even trainers, need to gain consensus for this construct, which is foundational to the Montessori teacher evaluation problem of practice.

Conclusion

This study is the first of its kind and opens the door to the extensive research still needed to develop a valid and reliable Montessori teacher evaluation system, as research specific to teacher evaluation within a Montessori context is currently nonexistent.

Overall, this study shows that a pedagogical development program grounded in a community of practice (Lave & Wenger, 1991) and guided by teacher efficacy theory (Ashton & Webb, 1986) can help Montessori trained elementary teachers and administrators 1) change their perceptions of normalization, 2) arrive at a consensual conceptualization of normalization, 3) change their perceptions as how to foster student normalization, and 4) further develop teacher efficacy beliefs and practices. This study also shows that self-regulated learning, a scholarly construct with more than thirty years

of research supporting it (de Boer et al., 2013; Zimmerman & Pons, 1986) maps to normalization, offering the Montessori literature and communities a body of research that supports the normalization aspect of Montessori practice. Additionally, this research serves as a bridge between Montessori and conventional education communities that might help improve discourse about facilitating academic and holistic development across both contexts.

Finally, the significant gaps between what Montessori teachers learn in training about normalization and what they see in practice show the need for schools, and better yet, training centers, to mitigate this gap so new Montessori teachers' sense of efficacy is not adversely affected. This theory-practice gap serves as a reminder to all Montessorians to do as Dr. Montessori implored:

> …turn your attention from me in the direction in which I am pointing—to The Child (Standing, 1998, p. 78).

While theory can guide teacher practice, it is the students who ultimately show the teachers what they truly need.

Chapter 1

Montessori Elementary Teacher Evaluation

Since the passage of President Lyndon B. Johnson's Elementary and Secondary Education Act (ESEA) of 1965, several U.S. administrations have enacted various policies aiming to narrow the learning gap and bring much needed resources to students living in poverty (Viteritti, 2012). However, many of these policies, including ESEA and No Child Left Behind, failed to deliver on their intended promises, fueling concern that the nation was still at risk (National Commission on Excellence in Education, 1984), lagging behind other developed countries in academic achievement (Viteritti, 2012). In response to this concern, the U.S. Secretary of Education, Arne Duncan, announced the Race to the Top (RttT) initiative in 2009, offering $44 billion in education stimulus money to states that provide, among other things, evidence of teacher effectiveness improvements (U.S. Department of Education, 2009). That same year, a report examining public school teacher evaluation systems issued by The New Teacher Project (Weisberg et al., 2009) showed that districts failed to differentiate their teachers' effectiveness and, instead, assumed that effectiveness was the same across faculty, creating a teacher "Widget Effect" wherein all teachers were given the same above-average rating (p. 4). Since RttT and the release of "The Widget Effect" (Weisberg et al., 2009), much of the

national education reform conversation's focus has been on teacher effectiveness, the use of student test scores to determine that effectiveness, and redesigning outdated classroom observation models to improve and ensure teacher quality (Reform Support Network, 2012; Sartain et al., 2011).

Similar to public school districts, independent Montessori schools – which educate hundreds of thousands of children in the nation, and are in every major city within the United States (American Montessori Society, 2017; AMI/USA, 2017; National Center for Montessori in the Public Sector, 2014; North American Montessori Teachers Association (NAMTA), 2017) – also have teacher evaluation challenges. One major challenge is that due to an absence of research literature specific to Montessori teacher evaluation practices and an Association Montessori Internationale (AMI) protocol for teacher evaluation, individual schools are left to create their own evaluation systems, which are neither valid nor reliable. Additionally, Montessori education is holistic, child-centered, and lacks conventional student assessment tools such as standardized tests (Lillard, 2007); thus, teacher effectiveness cannot be tied to student achievement scores, a common component of conventional education's teacher evaluation systems. In light of this, the Montessori teacher evaluation problem must be grounded in a theoretical framework that aligns with Montessori's aims, which include fostering self-discipline, persistence, self-confidence, and self-directedness in children (Montessori National Curriculum, 2012b). Self-regulated learning theory (Schunk & Zimmerman, 2008) aligns with these aims and is, therefore, suitable for theoretically grounding the Montessori teacher evaluation problem.

Further, because research specific to Montessori teacher evaluation is absent from the research literature, reviewing current practices and constructs in public school districts may be useful to identify specific components (other than the use of student achievement scores) that can be potentially adapted to a Montessori context. Thus, this literature review discusses practices (Sartain et al., 2011) and constructs (Baker et al., 2010; Goe et al., 2008; Shulman, 1986) used within conventional education. Initial research questions derived from this review include:

1. What are the current practices that administrators use to evaluate Montessori elementary teachers' effectiveness and content and pedagogical knowledge in our consortium?
2. What does "effective practice" mean to teachers and administrators in a Montessori setting?

Theoretical Framework

While research in Montessori education has examined the validity of its teacher training (Cossentino, 2009), its impact upon student academic, social, emotional, and executive function development (Diamond & Lee, 2011; Lillard & Else-Quest, 2006; Rathunde & Csikszentmihalyi, 2005), and even its periphery position in U.S. educational history (Thayer-Bacon, 2012; Whitescarver & Cossentino, 2008), no research regarding Montessori elementary teacher evaluation exists. In fact, even an extensive search of unpublished dissertations yielded no research specific to teacher evaluation within a Montessori context. Thus, the initial research questions for this problem were derived from the literature on classroom observation practices and the teacher effectiveness and teacher knowledge constructs within conventional education. However, this review and

the study of the initial research questions brought to light a need for expanding the needs assessment to include additional questions regarding Montessori student achievement and teachers' ability to foster student self-regulation. Thus, as research continued, the Montessori elementary teacher evaluation problem was grounded in the self-regulated learning literature (Schunk & Zimmerman, 2008).

Montessori's Theory of Normalization

According to the Montessori National Curriculum for the Second Plane (2012b), the elementary Montessori curriculum aims to foster self-confidence, self-directedness, self-responsibility, self-discipline, and the ability to concentrate. Ultimately, it seeks to have students take responsibility for their own learning and be able to cooperatively collaborate with others without being teacher dependent. Montessori referred to children who exhibit such behaviors as "normal" (Montessori, 2012). Through her systematic observation of children around the world, Montessori discovered that when given opportunities to choose and concentrate on purposeful, hands-on activities, children were transformed. Chaotic and undisciplined behaviors were replaced with a love of work, an ability to deeply concentrate for long periods, self-discipline, and high social competency. She referred to this transformative process as "normalization," and she declared it to be "*the most important single result of our whole work*" (Lloyd, 2008; Montessori, 1967a, p. 204, emphasis in original).

However, in her writings, Montessori only refers to the normalization process in her books focused on younger children within the first plane of development, which includes children from birth to age six (Montessori, 1966, 1967a, 1967b). Normalization is not mentioned in writings referring to children in what Montessori names the second

(ages 6 to 12) and third planes (ages 12 to 18) of development (Montessori, 1976, 1989b). Montessori does, however, note that even adults might experience the transformation that occurs through normalization, "but that change would be so difficult that it could no longer be recognized as a simple return to the essentials of human nature" (Montessori, 1966, p. 148). Thus, for Montessori, the result of normalization was more than a set of self-regulating and prosocial behaviors. It was akin to a spiritual transformation that brought about the true nature of the child.

In practice, however, some Montessori teachers and administrators use the term normalization for children of all ages to denote the behaviors the term describes: love of work, concentration, self-discipline (Epstein, 1989). This may be especially true in schools with growing elementary or adolescent programs that must enroll allegedly non-normalized students from conventional programs to meet the financial needs of the school. Additionally, some scholars view normalization not as a one-time occurrence, but as a process that begins again at each developmental plane (Loeffler, 2004).

Normalization and Self-regulated Learning

Ultimately, the behaviors normalization describes and the aims of the elementary curriculum correlate with the self-regulated learning process whereby students activate and maintain the behaviors, affects, and cognitions necessary to reach learning goals (Schunk & Zimmerman, 2008; Zimmerman, 2006). In fact, as Zimmerman (2006) states, "Maria Montessori was an important pioneer in the development of a systematic program designed to teach academic responsibility to young children" (p. 180).

Additionally, much of the self-regulated learning research is based on the social cognitive perspective in which the central function of the learner is "self-regulatory

capability" (Bandura, 1986, p. 20). This capability is developed through influential socializing models such as teachers, peers, and parents, and it is also dependent upon one's self-efficacy beliefs (Schunk & Zimmerman, 1997). The Montessori elementary program is specifically designed so that mixed-age groups of children will collaborate and become positive influential socializing models for one another (Montessori National Curriculum, 2012b). Teachers are also role models, but their role is really to foster a culture wherein the children take ownership of their learning and their environment. Further, positive self-efficacy beliefs are intentionally fostered through self-correcting materials and a focus on process rather than right and wrong answers (Lillard, 2007).

The self-regulated learning process. Self-regulated learners engage in three process phases learned through modeling or explicit instruction: forethought, performance, and self-reflection (Zimmerman, 2002). During forethought, students set personal goals and develop strategies to achieve those goals. The performance phase involves actual strategy use as identified in the forethought phase, and self-observation, strategy experimentation, and self-recording so students have actual data on how much time was spent performing a learning task. The final phase is self-reflection wherein the students engage in self-judgment and self-reaction. Self-judgment has two forms: self-evaluation (comparing one's performance to a standard) and causal attribution (attributing a cause to mistakes or successes). Self-reaction manifests as self-satisfaction, positive emotion, defensiveness, or adaptation where adjustments increase learning. This final phase of self-regulated learning then feeds back into the self-regulated learning cycle as self-reflections influence later forethought.

In a Montessori elementary classroom, children go through a similar process. Because each student participates in only one to two teacher-given lessons per day, students enter the classroom each morning knowing that they will have to plan much of their individual days. They determine which self-initiated projects to work on and which lessons to practice when not participating in a teacher-given lesson. They also record the time spent on each task in their work record journals, which helps them determine if their time was used efficiently. Students are also expected to evaluate their own work and to ask themselves if their work is their best and/or most beautiful.

Overall, self-regulated learners are aware of and understand their own learning process, which enables them to learn in virtually any domain (Zimmerman, 2001). Further, research demonstrates that self-regulated learners achieve academically, as evidenced by increased test scores (Abar & Loken, 2010; Ozkal, 2013; Zimmerman, 1990a). However, part of the Montessori teacher evaluation problem is that observing Montessori elementary children joyfully engaged in work can be deceptive as not all of the children may be truly self-regulated and, thus, achieving. As John Hattie (2009) notes in his 800 meta-analysis of achievement:

> We should not make the mistake, however, of thinking that because students look engaged and appear to be putting in effort they are necessarily achieving; this is one of the myths that are held in too many classrooms – busy work alone does not make the difference (p. 49).

Hence, it cannot be assumed that a calm and seemingly well-run Montessori elementary classroom with joyful children is an indicator of the teacher's effectiveness. The children, while displaying normalized behaviors, may be on a "well-being track" — avoiding work that challenges them — rather than on a "growth track" where they seek to challenge themselves and, thus, achieve (Black & Wiliam, 2009).

Truly self-regulated learners consistently challenge themselves and academically and intellectually grow (Abar & Loken, 2010; Ozkal, 2013; Zimmerman, 1990a). Thus, the question with respect to the Montessori teacher evaluation problem becomes: how do teachers and administrators know if Montessori students are truly self-regulated and, thus, growing academically and intellectually? Additionally, though some students may naturally be self-regulated learners, the process of self-regulated learning is one that can be learned and the teacher should explicitly teach (Kistner et al., 2010). Normalization, on the other hand, is generally assumed to be a transformation of the child that occurs during the preschool years through concentration (Lloyd, 2008; Montessori, 1967a). This suggests that elementary Montessori teachers may assume there is no need to foster self-regulated learning behaviors. Further, if they believe that normalization occurs only in the preschool years, then they may not believe that normalization is possible for those students who display non-normalized behaviors. Hence, the other question is: how do administrators know if teachers are effective in fostering self-regulated learners? As Kistner, et al. (2010) demonstrate, teacher behaviors can be codified, and students demonstrate achievement gains in terms of test scores when teachers consistently provide explicit self-regulated learning strategy instruction to their students.

Teacher Evaluation in Conventional Education

Because there is no research specific to Montessori teacher evaluation, the first step towards understanding the Montessori elementary teacher evaluation problem was to conduct a literature review regarding conventional teacher evaluation practices. Problems related to evaluation practices, such as classroom observation (Ho & Kane, 2013), use of student achievement scores to determine a teacher's impact (Baker et al., 2010), and

constructs related to teacher effectiveness (Campbell, Kyriakides, Muijs, & Robinson, 2004; Goe et al., 2008) and teacher knowledge (Ball, 2000; Shulman, 1986) were identified and are discussed.

Conventional Education Research Constructs

This section discusses constructs found in conventional education research and their relevance in a Montessori context.

Teacher effectiveness. Classroom observations seek to evaluate a teacher's effectiveness, but what does it mean to be an effective teacher? Historically, teacher effectiveness was broadly defined and included context-dependent teacher characteristics, such as skills necessary to work with students having a low socio-economic status or students suffering from emotional and behavioral disorders (Campbell et al., 2004; Scott, Jolivette, Ennis, & Hirn, 2012). Observable "outputs," such as student behavior, attitudes, and social-emotional adjustment also demonstrated a teacher's effectiveness (Goe et al., 2008). More recently, however, the teacher effectiveness definition narrowed to "…a teacher's ability to produce higher than expected gains in students' standardized test scores" as determined by value-added modeling (Baker et al., 2010; Goe et al., 2008).

As stated earlier, there are still concerns about linking student scores to a teacher's effectiveness as many variables contribute to student achievement (Baker et al., 2010). This concern has led some researchers to suggest a more comprehensive teacher effectiveness definition. For instance, Goe et al. (2008) recommend a five-point definition that describes good teachers as 1) helping students to learn (as demonstrated by test scores or alternative measures) and having high expectations for them, 2) positively contributing to students' social, emotional, and academic development, 3) being

resourceful in lesson creation and student assessment, 4) contributing to the well-being of the classroom and wider school community, and 5) fostering student success through parent and school personnel collaboration. This is the broadest and most comprehensive teacher effectiveness definition found in the literature (Baker et al., 2010; Curtis, 2012; Darling-Hammond, 2009). However, even with this more comprehensive definition, learning as demonstrated by test scores is still a part of that definition, which remains problematic for Montessori educators.

Additionally, while the other aspects of Goe et al.'s (2008) teacher effectiveness definition seem aligned with Montessori pedagogy, it was unclear, at this point, if this definition was complete according to Montessori teachers and administrators. The Montessori curriculum's aims are to guide children towards developing "…self-confidence, self-direction, self-discipline and persistence, in tandem with the ability to concentrate, . . . to interact with others with grace and courtesy and to take responsibility for the order of the environment and their own learning" (Montessori National Curricululm, 2012b, p. 85). It also aims to show children how everything within the universe is interconnected (Lillard, 2007). The teacher guides the child towards seeing herself as an individual part of a larger, universal system. The elementary Cosmic Education curriculum is the beginning of the child's journey to discovering his or her own "cosmic task" — the work that will be his or her contribution to society and the universe (Montessori, 1989a). These aims suggested that the Montessori teacher effectiveness construct might be substantially different than the existing literature's definition.

Conventional education content knowledge and pedagogical content knowledge. According to Fenstermacher (1986) teaching is a process in which a teacher possesses content and intends to impart that content to students who lack the content but who engage with the teacher to acquire it (as reported in Fenstermacher & Richardson, 2005, p. 187). Given this definition, content knowledge is an important construct for student achievement (Ball, 2000). It is defined as a teacher's deep understanding of a particular discipline, an understanding that goes beyond mere factual knowledge (Krauss et al., 2008; Shulman, 1986). The teacher must know a fact and understand the "why" of that fact. This deep understanding is viewed as crucial to writing creative lesson plans that all students will comprehend (Ball, 2000).

Shulman (1986) brought content knowledge to researchers' attention at a time when policymakers emphasized pedagogical process in teacher evaluation with no thought as to a teacher's subject matter mastery. To Shulman (1986), pedagogical knowledge was also important, but he defined it as another type of content knowledge — "subject matter knowledge *for teaching*" — which he referred to as "pedagogical content knowledge" (p. 9). Pedagogical content knowledge involves "…the most useful forms of representation of those ideas…" that enable others to comprehend the material (p. 9). It also includes understanding student subject matter preconceptions.

While Shulman's (1986) constructs did provide a "conceptual orientation" for effective teaching, the majority of pedagogical content knowledge research since his 1986 paper makes only broad claims about teaching without specifying content area (Ball et al., 2008, p. 392). More recent domain specific measures, however, are being created and tested to better evaluate pedagogical content knowledge as its own construct and

distinguish it from content knowledge (Jüttner, Boone, Park, & Neuhaus, 2013). Additionally, there is some empirical evidence that pedagogical content knowledge does directly affect student outcomes, but more research is necessary (Alonzo, Kobarg, & Seidel, 2012; Hill, Ball, & Schilling, 2008). For instance, Alonzo et al. (2012) compared classroom instruction in two German physics classrooms and found three particular pedagogical content knowledge aspects that positively affect student achievement: "flexibility, richness, and learner-centeredness" (p. 10). "Flexibility" refers to a teacher's ability to reword his lessons or questions to clear up student confusion. "Richness" refers to the ability to use multiple examples and representations to ensure and enhance student content comprehension. And, finally, "learner-centeredness" refers to a teacher's ability to see the subject matter from the learner's perspective so he can understand which specific content is necessary to gain comprehension and to understand which content students deem the most complex and why. The students whose teacher used these three pedagogical content knowledge aspects effectively did improve in achievement (Alonzo et al., 2012).

Montessori content knowledge and pedagogical content knowledge. Like the teacher effectiveness construct, there was concern that the content knowledge and pedagogical content knowledge constructs are not as relevant to Montessori pedagogy. Each Montessori elementary classroom has only one teacher — an "enlightened generalist" — who is "…able to integrate the teaching of all subjects, not as isolated disciplines but as part of a whole intellectual tradition," (NAMTA, 2014). Content mastery is not a concern as the goal is to guide students towards perceiving the universe's interrelatedness and understanding their individual roles and places within it (Lillard,

2007). This is done using the five Great Lessons, which are stories that provide a framework within which the children can explore. The first three Great Lessons introduce the universe's formation, life's evolution on earth, and human evolution. The other Great Lessons introduce children to two great human inventions: "communication through signs," and "development of numbers," or language and math (Montessori National Curriculum, 2012b, p. 88). Once the great stories are told (and they are retold every year), key lessons based on the latter two Great Lessons are provided but with only enough content necessary to enable students to independently explore.

Ultimately, through cosmic education, the child will, as Dr. Montessori states:

> …develop a kind of philosophy which teaches him the unity of the universe. This is the very thing to organize his intelligence and to give him a better insight with his own place and task in the world, at the same time presenting a chance for the development of his creative energy (as reported in Stephenson, 1999, p. 15).

As they continue through the cosmic education during their elementary years, each child not only begins to perceive the world as a system but begins to discover his or her own place within that system and the "cosmic task" that he or she will eventually contribute to the system in adulthood (Montessori, 1989a).

Further, even a Montessori teacher's knowledge of the Great Lessons or any other lesson is not a concern. All teachers have the Great Lessons, along with the rest of the Montessori curriculum, in their teacher albums, which they create during teacher training. Thus, while conventional education is concerned with a teacher's mastery of subject content (Ball, 2000; Ball et al., 2008), this not a concern within a Montessori context since Montessori teachers have all the necessary content within their albums.

Given the different curriculum intents of conventional and Montessori education, there is a considerable need to dissect and analyze how the teacher knowledge construct as defined within conventional education might inform the Montessori elementary teacher evaluation problem. With no literature that looks at this problem within Montessori education, a dramatic gap in the research exists that needs to be explored.

Conventional Education Teacher Evaluation Practices

As there is no research or even recommended practices specific to Montessori elementary teacher evaluation, classroom observation, a core practice in conventional education was researched. Validity and subjectivity issues with respect to classroom observation and their applicability to a Montessori context are discussed.

Subjectivity of evaluations in conventional education. Classroom observation checklists were historically the main teacher evaluation measure in conventional education settings (Ho & Kane, 2013; Sartain et al., 2011). However, researchers found that these checklists failed to help differentiate highly effective from ineffective teachers (Weisberg et al., 2009). The use of these instruments by administrators also failed to improve teaching practice due to their top-down, evaluative implementation, which lacked mentoring or constructive coaching (Danielson, 2012). Finally, these checklists yielded highly subjective information as they also lacked well-defined, reliable, and valid rubrics (Weisberg et al., 2009).

To remediate the classroom observation subjectivity issue, the Chicago Public Schools (CPS) schools initiated the Excellence in Teaching Pilot (ETP) utilizing the Charlotte Danielson Framework for Teaching (2007), which has a well-defined observation rubric that was modified to meet CPS's needs (Sartain et al., 2011). Research

examining the framework used in four CPS elementary schools compared principal classroom observation ratings with other observer ratings. Overall, the framework was found reliable as the principal and observer ratings were consistent, especially at the rating scale's lower end. At the scale's higher end, however, principals tended to rate teachers as "distinguished" more often than peer observers. Follow-up principal interviews revealed that their wish to preserve teacher relationships influenced their "distinguished" ratings as they had previously rated those same teachers as "distinguished." This focus on relationship preservation suggests that even with a reliable measure like the Danielson Framework (2007), bias can still be an issue in classroom observations.

Ho and Kane (2013) also found a principal bias in their study examining observations of 67 teachers in Hillsborough County, Florida using the Danielson Framework (2007). They found that principals rated their own teachers 0.10 points higher on average overall, but compared to peer observers, the average was 0.20 points higher. Even this small difference can affect a teacher's position in the distribution of observation scores by about 10% (p. 15). Thus, to increase reliability, Ho and Kane (2013) recommend having multiple observers, better observer training, and tests that certify raters to ensure adherence to rating standards.

Validity of classroom observation evaluations. In addition to being reliable, classroom observation systems must also be valid. To measure classroom observation validity, student achievement growth test scores are tied to observation ratings using value-added modeling (Sartain et al., 2011), a statistical process adjusting for other factors affecting achievement such as student or school characteristics (Baker et al.,

2010). The assumption is the rating measure is valid if value-added measures correspond with teacher ratings: students with the highest achievement scores have teachers with the highest classroom observation rating, and students with the lowest scores have teachers with the lowest classroom observation rating. This is, in fact, what Sartain et al. (2011) found when examining the Danielson Framework (2007) in the Chicago Public Schools.

It should be noted, however, that there is still some question around using value-added modeling to determine teacher effectiveness, as researchers still disagree as to which value-added modeling statistical approaches are the most accurate (Baker et al., 2010; Sass, 2008). Because there are so many other variables – such as other teachers' influence, school conditions, and student home experiences – that affect student achievement, researchers argue that value-added modeling is not a truly accurate measure of a teacher's direct effect on student learning (Baker et al., 2010; Koretz, 2008). Thus, researchers recommend using value-added modeling with caution and assigning student scores weight of less than 50% in their teacher evaluation practices (Baker et al., 2010). Some districts, such as the Baltimore City Public Schools (2013) are heeding this advice, assigning individual student measures a weight of 35% of a teacher's overall evaluation.

Subjectivity and validity within Montessori schools. The above research illuminates some potential observation problems within a Montessori elementary classroom. Potential principal bias is definitely a concern as Montessori principals may be influenced by their own desire to maintain good relationships with their teachers (Ho & Kane, 2013; Sartain et al., 2011), especially since recruiting Association Montessori Internationale trained elementary teachers is difficult due to scarcity (O'Malia, 2012). Additionally, the modified version of the Danielson Framework (2007) observation

rubric as described in Sartain et al. (2011) defines a "distinguished" establishment of a learning culture as "high levels of student engagement…" wherein "…all students hold themselves to high standards of performance, for example, by initiating improvements to their work" (p. 45). In a traditional classroom environment, an observer may see student engagement as described in the rubric and that observation rating can be checked against those students' achievement scores, thereby validating or refuting the rating. In a Montessori environment, however, this second measure is not possible since students do not take standardized tests. Further, even if students did take tests, such tests are only viewed as providing exposure to what will be required during their high school years, but scores would not be interpreted as achievement (Miller, 2009). Thus, observing student engagement in Montessori schools is particularly problematic as there is no empirical way to show that engagement does, in fact, equate academic growth (Hattie, 2009). Additionally, the children's engagement may be due to subtle teacher control rather than student self-directedness and self-regulation (Lloyd, 2008), which goes against Montessori's educational aims, but may not be discernible within one or two observations. It is also much more complex to observe a classroom where small groups of children or even individual students are all engaged in different activities at once. Even the small group lessons that teachers provide are hard to hear from afar and would require an observer to sit in on the lesson with the children, which could potentially affect the students' and teacher's behavior (Howard, Burke, & Allen, 2013)

Conclusion

While there is no scholarly literature on Montessori teacher evaluation, evidence from the conventional education literature suggests that teacher evaluation is problematic.

The practice of classroom observation practice, regardless of educational context, is subjective even when the measures used are found to be valid and reliable (Ho & Kane, 2013; Sartain et al., 2011; Weisberg et al., 2009). Additionally, constructs used to determine a teacher's effectiveness within conventional education are not easily applied to a Montessori context given Montessori's focus on developing contributing members of society rather than students (Montessori, 1989a; Montessori National Curricululm, 2012b) who have demonstrated content mastery (Fenstermacher, 1986; Goe et al., 2008).

The findings presented provided a rationale for further study of the teacher evaluation problem specifically within a Montessori school context. It also provided the rationale to ground the problem in a theory that correlates the behaviors Montessori's theory of normalization describes (Lloyd, 2008; Montessori, 1967a) and the elementary curriculum seeks to foster: self-confidence, self-directedness, self-responsibility, self-discipline, and the ability to concentrate (Montessori National Curricululm, 2012b). Self-regulated learning theory, with its focus on the process whereby students activate and maintain the behaviors, affects, and cognitions necessary to reach learning goals (Schunk & Zimmerman, 2008; Zimmerman, 2006) is a good match for Montessori. Thus, further inquiry into this problem was grounded in the self-regulated learning literature.

Chapter 2

Assessment of the Montessori Teacher Evaluation Problem of Practice

Teacher evaluation is at the forefront of the national education reform conversation. Specific problems within teacher evaluation include what it means to be an effective teacher (Goe et al., 2008), how teachers' content knowledge and pedagogical knowledge contribute to a teacher's effectiveness (Ball, 2000; Ball et al., 2008; Shulman, 1986), and how administrators can reliably observe and determine a teacher's effectiveness within the classroom (Curtis, 2012; Sartain et al., 2011), However, as discussed in the previous chapter, there is no scholarly literature specific to teacher evaluation issues within a Montessori context. Further, it is questionable whether teacher effectiveness as defined within the literature, and whether the constructs of content and pedagogical knowledge are useful within a Montessori context. Unlike conventional education, which focuses on content mastery and testing of that content (Hill, Rowan, & Ball, 2005), Montessori elementary education aims to help a child see the interconnectivity of the universal system, his or place within that system, and develop understanding of his or her eventual contribution to that system in adulthood (Montessori,

1976/2008). Even content knowledge of lessons is not a concern for administrators as Montessori elementary teachers create their albums, which includes the entire first through sixth grade curriculum, during their training. Thus, further examination of the teacher evaluation problem of practice within a Montessori context was necessary.

Goals and Objectives

The purpose of the present study was to explore and better understand the Montessori teacher evaluation problem from the perspective of administrators and teachers within Montessori schools that follow the Association Montessori Internationale (AMI) pedagogy. Greater problem understanding informed and helped to determine an effective and appropriate solution to the Montessori teacher evaluation problem of practice.

To determine the existence of this problem within this particular educational context, four research questions were developed. The findings from the first two questions informed the development of the last two questions:

1. What are the current practices that administrators use to evaluate Montessori elementary teachers' effectiveness and content and pedagogical knowledge in our consortium?
2. What does "effective practice" mean to teachers and administrators in a Montessori setting?
3. How do teachers and administrators know if Montessori students are truly self-regulated learners and, thus, achieving?
4. How do administrators know if teachers are effective in fostering self-regulated learners?

Methodology

In order to answer the research questions, an exploratory needs assessment was conducted for this study. This section describes the assessment's research design.

Description of the Setting

The Montessori teacher evaluation problem was explored within two independent non-profit Montessori schools recognized by the Association Montessori International/USA (AMI/USA): West Montessori and East Montessori.

West Montessori serves children ages 18 months through 15 years old. The school is recognized by AMI/USA and is a nonprofit organization governed by a board of trustees consisting of parents whose children attend the school. At the time of the current study, the school had 114 total students, 54 of whom were elementary. The elementary program had two AMI trained teachers, with each teacher overseeing a first through sixth grade classroom. One classroom had 28 students and the other had 26. The maximum number of students allowed in each classroom was 30. Each classroom also had an assistant who was primarily responsible for assisting the teacher and not the students so that students would not become adult-dependent. The assistants were not required to be Montessori trained. The Montessori teachers evaluated assistants with only limited input from administration. At the time of this study, one of the elementary teachers was also the director of education (DOE) for the entire school and was responsible, along with the head of school (HOS), for evaluating all Montessori trained teachers. The HOS alone evaluated the DOE. The HOS at the time of this study was not Montessori trained.

East Montessori was founded in 1976 by a small group of parents who wanted Montessori education for their children. Today a board of trustees comprised of current

and alumni parents as well as grandparents governs the school. At the time of this study, East Montessori had 350 students, 143 of them elementary. They had five elementary classrooms — two lower elementary (ages six to nine), two upper elementary (ages nine to twelve), and one first through sixth grade — with approximately 28 students in each class. Each classroom also had an assistant, who, like at West Montessori, was primarily responsible for assisting the teacher and not the children. The school did not have a director of education as their HOS and assistant head of school (AHOS) were both Montessori trained at the elementary and primary (ages three to six) levels respectively. Both the HOS and AHOS were responsible for Montessori teacher evaluation.

Elementary students at West Montessori do not take standardized tests, whereas students aged nine to twelve years old at East Montessori do. However, standardized test scores are not used in any way to assess student achievement or determine teacher effectiveness. Instead, as stated on the school's website, the tests are norm-referenced and only serve as information to the teacher as to which curriculum areas may need attention.

Study Respondents

Administrators and teachers from each school received two separate surveys: 1) a survey examining administrators' and elementary teachers' perspectives of current teacher evaluation practices and constructs as defined by conventional education and 2) a survey examining administrators' and teachers' perspectives of self-regulated learning within a Montessori context. The first survey was administered in the spring of 2014, and included a total of eight participants: five Montessori elementary teachers, one elementary teacher/administrator, and two administrators. The second survey was administered during the summer of 2014, yielding a considerably smaller sample size due

to summer vacation. For this survey, only one elementary teacher, one elementary teacher/administrator, and one administrator participated. However, even with this small sample, both schools are represented.

Constructs and Data Sources

Data was collected using two surveys. Details regarding constructs and data sources are described below and broken down by survey.

Survey one. This survey was submitted in the summer of 2014. Constructs examined in this survey included current teacher evaluation practices and teacher effectiveness.

Teacher evaluation practices. Current evaluation practices consisted of the following: a pre-evaluation meeting explaining the evaluation process, pre-observation meetings with administrator, classroom observations, having more than one evaluating administrator, teacher goal setting, peer evaluation, teacher self-evaluation, post-observation meetings, assistant input, student outcome measures, lesson plan review, and student record review (Curtis, 2012; Sartain et al., 2011).

Teacher effectiveness. Teacher effectiveness was defined as: teachers having high expectations for students and helping them to learn as measured by test scores or alternative measures; contributing to positive student social, emotional, and academic outcomes; using a variety of resources to create engaging lessons and using varied resources to assess student learning; contributing to the development of civically-minded schools and classrooms; collaborating with parents and all appropriate school personnel to foster student success (Goe et al., 2008).

Data source. Data were collected using an online survey containing 18 quantitative and qualitative questions. Specific questions examined respondent demographics, current school evaluation practices, and variables that define teacher effectiveness in a Montessori context. The full survey can be found in Appendix A. A cross-walk of the research questions and data collection is provided in Table 1.

Survey two. This survey was submitted in the summer of 2014. Constructs examined in this survey include normalization, self-regulated learning, and student academic achievement.

Normalization and self-regulated learning. For this survey, normalization was defined as self-regulated learning behaviors. These behaviors include a student's ability to 1) regulate one's own thoughts, emotions, behavior, and attention, 2) analyze tasks, 3) set goals and plan, 4) monitor and regulate one's motivation, 5) self-reflect upon one's own behaviors, 6) reflect upon external feedback, 7) structure the environment so one's own learning is supported, and 8) consistently challenge one's self (Schunk & Zimmerman, 2008; Zimmerman, 2001; Zimmerman, 2002).

Evaluation of student academic achievement. Student academic achievement was defined as 1) observing student behavior, 2) reviewing student work, 3) noting student questions during lessons, 4) asking a student questions, 5) student check-in meetings, 6) checking student work record journals, and 7) one-on-one editing or reading time with each student (Kistner et al., 2010; OECD, 2008; Zimmerman, 2002; Zimmerman, 2006).

Data source. Data were collected using an emailed survey containing 15 quantitative and qualitative questions. Specific questions examined respondent

demographics, student behaviors demonstrating normalization and self-regulation and how teachers foster such behaviors, as well as how teachers assess student achievement. The full survey can be found in Appendix B. A cross-walk of the research questions and data collection are provided in Table 1.

Procedures

This section describes the procedures, including the data collection methods and analysis, for this assessment.

Data Collection Methods

Participants were asked via email to participate and were given a three-week deadline. This researcher emailed the West Montessori elementary teacher and director of education, and East Montessori's head of school and assistant head of school. Follow-up emails were provided two weeks later. The head of East Montessori asked her elementary teachers via email to complete the survey and provided follow-up emails two weeks later. For the first assessment, the response rate was 80%. However, the response rate for the second assessment was only 30%, which is likely due to the fact that it was submitted during the summer months when most teachers are on break.

Table 1

Cross Walk of Research Questions and Data Collection

First Survey	Data Needed		Data Collection Plan	
RQ	Value	Type	Target Population	Data Source
RQ1: What are the current practices that administrators use to evaluate Montessori elementary teachers' effectiveness and content and pedagogical knowledge in our consortium?	Measures used	Qualitative; quantitative questions	Montessori administrators and teachers	Online Survey
RQ2: What does "effective practice" mean to teachers and administrators in a Montessori setting?	Perceptions of target population	Quantitative; qualitative questions	Montessori administrators and teachers	Online Survey
Second Survey	**Data Needed**		**Data collection plan**	
RQ	Value	Type	Target Population	Data Source
RQ1: How do teachers and administrators know if Montessori students are truly self-regulated learners and, thus, achieving?	Measures used	Qualitative; quantitative questions	Montessori administrators and teachers	Emailed Survey
RQ2: How do administrators know if teachers are effective in fostering self-regulated learners?	Perceptions of target population	Quantitative; qualitative questions	Montessori administrators and teachers	Emailed Survey

Data Analysis

The following sections describe how the collected data was managed and analyzed.

Data management plan. Data collected from the online survey were retrieved from the survey platform and downloaded into spreadsheets. Data from the emailed survey were retrieved and input into spreadsheets. All respondents were given numerical codes to ensure confidentiality.

Statistical tests. Descriptive statistical analyses of quantitative questions were conducted to determine the frequency of responses.

Qualitative coding. Responses to qualitative questions were coded using predetermined codes based upon the study's constructs: teacher evaluation practice, teacher effectiveness, normalization, self-regulated learning, and student achievement. Codes that emerged from the data were also identified and assigned (Saldana, 2009).

Needs Assessment Findings

A needs assessment was conducted based upon the research reviewed in the previous chapter using two separate surveys. The first survey examined Montessori administrators' and teachers' perceptions of evaluation practices and teacher effectiveness, while the second survey examined their perceptions of normalization, self-regulated learning, and student academic achievement. Results from the exploratory needs assessment are shared in the sections below and are broken down by research question.

Research Question #1: What are the current practices that administrators use to evaluate Montessori elementary teachers' effectiveness and content and pedagogical knowledge in our consortium?

When asked to identify which processes are included in their school's current teacher evaluation system, quantitative analyses of eight participants show that nearly all

12 types of practices as described in Table 2 are used to some extent with the exception of pre-observation meetings with administrators. Classroom observations and teacher evaluations are the most frequently used practices as determined by 100% response ratings for each. Four of the five teachers do feel that the evaluation process is more supportive than evaluative, and four feel the process does improve teacher practice more than moderately. Finally, six of the eight respondents do not think that the evaluation process is tied to student learning, despite the fact that two respondents indicated that student outcome measures are used in the process.

Table 2

Survey One: Teacher Evaluation Practice Type

Practice Type	Total Respondents
Teacher self-evaluation	8
Classroom observations	8
Pre-meeting explaining evaluation process	4
More than one evaluating administrator	4
Teacher goal-setting	4
Peer evaluation	4
Post observation meetings with administrator	4
Input from assistant	2
Student outcome measures	2
Lesson plan review	2
Student record review	1
Pre-observation meetings with administrator	0

Quantitative and qualitative analyses suggest that the teachers are satisfied with their evaluation process. Quantitative results showed that three of the five teachers gave their school's evaluation system a rating of four on a scale of one to five with five being the best rating. Another teacher rated her school's system a five. However, one teacher, Andrea, rated her school's system a three, providing this explanation: "I don't feel my evaluation changes the way I do things in my classroom." According to Andrea, her evaluation process is not impacting her classroom practice, which suggests that her school's evaluation system is not promoting the growth of this teacher. Yet it is unclear whether Andrea views the process as an opportunity for her to proactively take some ownership over her evaluation so she can professionally grow and improve (Danielson, 2012). If the system is primarily top-down in its implementation, she may not feel empowered to take such ownership.

Two of the three administrators, however, are not satisfied with their evaluation systems as evidenced by their low scale ratings and their qualitative responses. As Sandra, one administrator, stated: "Review should be how effective [the] teacher is at implementing the theory." According to Sandra, her school's current evaluation system does not indicate how effectively teachers are implementing theory into their classroom practices, suggesting she is concerned about a possible gap between what teachers learn in theory and what they do in actual practice.

However, Amy, another administrator, had a different reason for being dissatisfied with her school's evaluation system: "Need more observation time. Need to look more at student progress." For Amy, finding time to observe in the classrooms and evaluate each student's progress is compromising the school's evaluation process.

Perhaps Amy is aware of the subjective nature of observations (Ho & Kane, 2013), recognizing the need for at least more observation times and other measures such as student progress. Additionally, her response hints to a possible concern that what she sees during her observations does not provide an accurate picture of student growth and progress, which is why she needs more time to observe and evaluate student progress (Hattie, 2009).

Finally, when teachers were asked which aspects of their school's evaluation system are done well, qualitative analyses showed that having opportunities to "practice lots of self-reflection," having "regular meetings to discuss what is going well and what is not," and "never feel[ing] judged, always feel[ing] support [ed], like the admin team is on my side" are important factors to teachers. These data show that teachers appreciate a collaborative rather than top-down approach to teacher evaluation (Danielson, 2007; Danielson, 2012).

Research Question #2: What does "effective practice" mean to teachers and administrators in a Montessori setting?

Quantitative analyses revealed four points that 100% of the respondents agreed are necessary to be an effective Montessori elementary teacher (Table 3): 1) helping students to learn, 2) understanding needs and tendencies inherent in children of all ages; 3) understanding the psychological characteristics of each developmental stage; and 4) fostering students' love of humanity.

Qualitative analyses showed that four of the five teachers know they are effective at their practice when students exhibit self-regulated learning behaviors related to "challenging work," "self-reflection," "problem solving," and "follow-through" on tasks.

However, only one teacher, Stephanie, discussed students' social and emotional outcomes and civic mindedness:

> If my students leave my class as responsible, kind, caring, and contributing members of society as a whole; knowing and understanding the world outside of the classroom and showing empathy and tolerance for all; children being able to identify their own strengths and weaknesses and building upon these.

Stephanie's response expresses the overall goal of Montessori education: to help children develop into contributing citizens of society (Montessori, 1989a). However, her desire to equip students with the ability to identify their strengths and weaknesses and build upon the same, are a self-regulated learning strategy (de Boer et al., 2013). Thus, this part of her response and the other teachers' responses, which focused more on normalized and self-regulated learning behaviors, led to additional questions requiring a second survey (Montessori, 1967a; Zimmerman & Schunk, 1989).

Table 3

Survey One: Quantitative Results For Teacher Effectiveness

Construct	Construct as defined in literature	Construct as defined by study participants
Teacher effectiveness	Having high expectations for students and helping them to learn as measured by test scores or alternative measures; contributing to positive student social, emotional, and academic outcomes; using a variety of resources to create engaging lessons and using varied resources to assess student learning; contributing to the development of civically-minded schools and classrooms; collaborating with parents and all appropriate school personnel to foster student success (Goe, et al., 2008).	1) Helping students to learn 2) Understanding needs and tendencies inherent in children of all ages 3) Understanding the psychological characteristics of each developmental stage; and 4) Fostering students' love of humanity.

Research Question #3: How do teachers and administrators know if Montessori students are truly self-regulated learners and, thus, achieving?

For this research question, both quantitative and qualitative survey questions were utilized. Quantitative findings are reported first and are divided into the following sections: 1) student behaviors important to normalization, and 2) how teachers assess student achievement. Qualitative findings are provided thereafter and are derived from responses to open-ended questions asking teachers to 1) describe a normalized child, and 2) explain how teachers can foster students' normalized behaviors.

Quantitative survey questions. Quantitative questions explored 1) which behaviors administrators and teachers think are important to demonstrating student normalization, and 2) how teachers assess student achievement.

Student behaviors important to normalization. One survey item asked administrators and teachers to rate the importance of student behaviors that demonstrate normalization. Frequencies are reported in Table 4. Results indicate that two of three respondents agree with six of the eight behaviors that define self-regulated learning (Schunk & Zimmerman, 2008; Zimmerman, 2001). Further, all respondents think that the student's ability to structure the environment so one's own learning is supported is only moderately important to normalization.

Table 4

Survey Two: Quantitative Results of Self-Regulated Learning

Self-Regulated Learning Strategy	Extremely Important	Very Important	Moderately Important
Ability to monitor and regulate one's motivation	2	1	0
Ability to self-reflect upon one's own behaviors	2	1	0
Ability to regulate one's own thoughts, emotions, behavior, and attention	2	1	0
Set goals and plan	2	0	1
Ability to reflect upon external feedback	2	0	1
Consistently challenging one's self	2	0	1
Analyze tasks	1	2	0
Ability to structure the environment so one's own learning is supported	0	0	3

How teachers assess student achievement. Quantitative results of how teachers assess student achievement show that all respondents consider observation and one-on-one editing or reading time with students as an extremely important assessment method. Only two of the three respondents consider reviewing student work, asking questions of the student, and student check-in meetings as methods extremely important to student achievement assessment. Noting student questions and checking student work record journals were also considered very important to two of the three respondents with the third respondent considering them extremely important.

Table 5

Survey Two: How Teachers Assess Student Achievement

Method of Assessment	Extremely Important	Very Important	Moderately Important
Observation of student behavior	3	0	0
One-on-one editing or reading time with student	3	0	0
Reviewing student work	2	1	0
Asking questions of the student	2	1	0
Student check-in meetings	2	1	0
Checking student work record journals	1	2	0
Noting student questions during lessons	1	1	1

Qualitative survey questions. Open-ended questions asked teachers to 1) describe a normalized child, and 2) explain how teachers can foster normalized behaviors.

Descriptions of a normalized child. All of the respondents describe a normalized child as displaying self-regulated learning behaviors. Two of the three respondents – the administrator and teacher – referred to engaging in challenging work. Two of the three respondents – the teacher and administrator/teacher – also referred to self-regulation. However, only the teacher, Susan, in addition to challenging work and self-regulation, referred to motivation and a student's ability to self-reflect:

> A child who is self-directed, self-motivated, challenges herself to move on to the next step, with the ability to concentrate and stay inspired through a project, and the ability to think of interesting follow-up work and become very engaged in that work. She works well with others and alone, is able to recognize when she has moved away from goals and find a way to get

> back on track, is respectful of the prepared environment and people in general, is helpful and a role model for younger children.

Demonstrating motivation to achieve a goal and being able to self-reflect upon one's work are self-regulated learning behaviors (de Boer et al., 2013). This finding points to a similarity between normalization (Montessori, 1967a) and self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986).

How teachers can foster normalized behaviors. Respondents showed variation in strategies they would use to foster students' normalized behaviors. All three respondents referred to helping the child to find work that interests them. For instance, Nicole, who is both an administrator and teacher stated:

> I would be sure to give the child as many lessons as possible, or invite the child to observe other lessons I am giving (taking note of the particular activities that peak a child's interest).

Nicole's focus on student interest likely originates from normalization theory: as children are engaged with work and repeating it, they are concentrating, and concentration is thought to the be path towards normalization (Montessori, 1967a). As one AMI trainer stated, concentration is "actually the normalizing agent" (Lloyd, 2008, p. 65). Thus, to get a child to concentrate, one must tap into his or her interest.

The administrator, Cheryl, echoed Nicole's response: "Find work that engages the child. Allow for repetition in order for the student to 'feel' what that engagement can do for him/her." By finding work that the child is interested in, and by allowing the child to repeat that work again and again, the teacher is guiding the child towards normalization through concentration (Lloyd, 2008; Montessori, 1967a). Additionally, tapping into a student's interest can also provide him or her with the motivation necessary to complete a

goal, and intrinsic motivation that orients one towards a goal is a self-regulated learning strategy (de Boer et al., 2013).

Susan, the teacher, also refers to engaging a student's interests but includes additional variables that influence student behavior:

> Through observation and working with the child, one would come to know the child well and determine what was required to help them become normalized. Perhaps engaging with the child's interests and inspiring the child would be important, or setting in place certain expectations and boundaries. It would all depend on the child, influences on the child, and the situation. Sometimes the child can respond very well and quickly, and other times it may take a long time.

Susan recognizes that in addition to interest, student behavior is also influenced by context, which includes the adults' expectations and boundaries within that context. This suggests that agents other than concentration help to foster student normalization. Similarly, in the self-regulated learning literature, context is also an important factor. For instance, classroom environments wherein teachers provide students with strategies and opportunities to independently practice those strategies promote self-regulated learning (Boekaerts, 2002; Kistner et al., 2010; Perry, 1998; Perry et al., 2002).

In addition to student interest, two of the three respondents also referred to engaging help from parents at home as a way to help foster student normalization. Cheryl suggested the need to "communicate with parents for consistent expectations at home/school." Like Susan did in her above response, Cheryl points to expectations in a given context as influencing student normalization. Susan further echoed engaging parents' support:

> Support of the parents is extremely important in terms of helping a child normalize so that the same steps taken at school are followed through with at home.

Susan is again suggesting that contextual expectations are also normalizing agents, and Cheryl seems to think so as well. Again, the idea that context can influence normalization aligns with the research on self-regulated learning as discussed above (Boekaerts, 2002; Kistner et al., 2010; Perry, 1998; Perry et al., 2002).

Finally, only one respondent, Nicole, referred to helping the child to manage his time and to self-reflect upon his learning process:

> I would begin by providing guidance and direction on how the child can use and manage his time. I would keep the child close in proximity until he/she is able to use his/her time responsibly. I would have regular check-in meetings with the child so that the child can begin to evaluate his own process and growth.

Self-reflection and time management are both self-regulated learning strategies (de Boer et al., 2013; Zimmerman & Pons, 1986). This suggests that this administrator/teacher is thinking in terms of specific strategies she can teach her students to guide them towards normalization, while the other teacher, Susan, is not.

Research Question #4: How do administrators know if teachers are effective in fostering self-regulated learners?

To explore this research question, administrators were asked to explain how they know if a teacher is truly effective in fostering self-regulated learners. Qualitative analysis revealed agreement on two strategies that help them know if teachers are effective in fostering self-regulated learners: concentration/engagement levels of students and student work samples. Two respondents crystallized these notions. For example, Nicole stated:

> The culture of the class, the levels of concentration taking place, and the work generated by the children are huge indicators of an effective teacher in my opinion.

Cheryl's response echoed Nicole's, while also including other measures:

> Multiple measures – 1) looking at student progress after they leave the school. We are lucky to have the [Montessori] middle and high school most of them attend next door. Discussions of preparedness based on teacher; 2) engagement levels of the students through observations; 3) progress through work samples, reports, capstone projects; 4) parent satisfaction surveys; and 5) self-evaluation.

While both Cheryl and Nicole identify observing concentration levels and student work samples, it is interesting to note that Cheryl also identifies measures that are far removed from the classroom to evaluate her teachers. Looking at how students progress after they leave the school does not help with a teacher's evaluation within a particular school year. Additionally, while parents may be satisfied with the school, they may not know whether or not their children are truly self-regulated in their learning. However, self-evaluation is an immediate measure that can be useful to teacher evaluation in promoting teacher growth (Danielson, 2007; Danielson, 2012). Overall, given the subjective nature of classroom observations (Ho & Kane, 2013; Sartain et al., 2011), those observations coupled with student work samples may not provide sufficient information to evaluate whether a teacher is effective in fostering student normalization (Boekaerts, 2002; Kistner et al., 2010; Perry, 1998; Perry et al., 2002).

Summary

The results from the two needs assessments show that, overall, the respondent teachers are satisfied with their schools' evaluation processes, finding them more supportive than evaluative. Specifically, teachers feel their evaluation systems provide opportunities for self-reflection, discussion and feedback, and nonjudgmental support. Administrators, however, are not satisfied with their teacher evaluation processes. They find their systems are inadequate in determining how effective teachers are at

implementing Montessori theory, and they feel their systems lack sufficient time for classroom observations and review of student progress.

Findings also show that, according to teachers and administrators, evidence for "effective practice" includes students engaging in self-regulated learning behaviors, such as working on challenging as opposed to busy work, self-reflection, problem solving, and follow-through on tasks (de Boer et al., 2013; Zimmerman & Pons, 1986). Similarly, most of the behaviors respondents identified and described as normalized were also self-regulated learning behaviors. With respect to fostering normalized behaviors in students, however, it was only the administrator/teacher who expressed using self-regulated learning strategies (de Boer et al., 2013; Zimmerman & Pons, 1986) with her students rather than merely relying on concentration as the "normalizing agent" (Lloyd, 2008, p. 65).

Finally, administrators identified two measures they employ to evaluate whether teachers are effective in fostering self-regulated learning in students 1) observing student concentration and engagement levels during classroom visits, and 2) examining student work samples. However, one of the administrators provided other measures she utilizes that are far removed from the classroom and unlikely to be helpful to an evaluation within any one particular school year. Her use of these measures, however, points to a desire for an administrator within a Montessori context to have a variety of measures to evaluate their teachers. This is especially important given the subjective nature of classroom observations (Ho & Kane, 2013; Sartain et al., 2011), particularly with respect to student engagement (Hattie, 2009).

Discussion

Like teacher evaluation in public school districts, Montessori elementary teacher evaluation is also problematic. Because this method is a holistic and child-centered approach and typically does not utilize conventional student assessments, administrators must rely primarily on classroom observations to evaluate teachers. However, observing children joyfully engaged in work may be deceiving, as engagement does not necessarily equate achievement (Hattie, 2009).

Results from the first survey exploring Montessori administrators' and teachers' perception of teacher effectiveness shows their view of this construct did not correlate with the definition found in the literature (Goe et al., 2008). The only similarity to Goe et al.'s (2008) five-point definition of teacher effectiveness was helping students to learn. The other three points respondents agreed upon were 1) understanding needs and tendencies inherent in children of all ages; 2) understanding the psychological characteristics of each developmental stage; and 3) fostering students' love of humanity. It could be argued, however, that this latter point is somewhat related to the part of Goe et al.'s (2008) definition that refers to developing civically-minded schools and classrooms.

Student behaviors that teachers and administrators perceived as indicators of a teacher's effectiveness did correlate, though not completely, with the definition of what it means to be a self-regulated learner (de Boer et al., 2013; Schunk & Zimmerman, 2008; Zimmerman, 2001). According to respondents, self-regulated learning behaviors that demonstrate a teacher's effectiveness include challenging oneself, self-reflection, problem solving, and follow-through on tasks. However, only one teacher discussed

students' social and emotional outcomes and civic mindedness, which is related to one point of Goe et al.'s (2008) five-point definition of teacher effectiveness. These results led to a second survey exploring Montessori administrators' and teachers' perspectives of normalization as it relates to self-regulated learning. It also explored ways in which Montessori elementary teachers assess student achievement, as research demonstrates that students who exhibit self-regulated learning behaviors make gains in learning (Kistner et al., 2010; Zimmerman, 1990a; Zimmerman, 2006).

Results from the second survey showed variation in teachers' and administrators' perspectives regarding student behaviors most important to demonstrating normalization. This variation showed lack of consensus regarding normalization, a central tenet to Montessori education (Montessori, 1967a). Additionally, only one of the three of respondents described providing scaffolding and direction to students to foster self-regulated learning. This suggests that some Montessori administrators and teachers may not be aware that to effectively foster students' self-regulated learning, scaffolding and explicit instruction are necessary (Kistner et al., 2010; OECD, 2008; Zimmerman, 2006).

Finally, with respect to evaluating whether teachers are effective in fostering self-regulated learning in students, results revealed that administrators employ two measures: observed student concentration and engagement levels and student work samples. However, the fact that one of the administrators listed other measures that are far removed from the classroom, thus, unlikely to inform an evaluation within any one particular school year, suggests a desire for measures other than classroom observations of student engagement and student work samples. This desire is not only reasonable but

also necessary given how subjective classroom observations are (Ho & Kane, 2013; Sartain et al., 2011), particularly when observing student engagement (Hattie, 2009)

Limitations

Content knowledge and pedagogical content knowledge were not specifically investigated in this assessment, but because these constructs relate to a teacher's effectiveness (Ball, 2000), it was assumed that their relevance to Montessori educators would appear in some of the qualitative questions. However, only one respondent referred to pedagogical content knowledge in survey one, and it was not referenced at all in survey two. This illustrates how these constructs are not as useful in a Montessori context.

Another important limitation to note is the low participant response rate for survey two due to the summer break.

Conclusion

Dr. Maria Montessori clearly understood the need for students to be self-regulated in their learning (Zimmerman, 2006), but the findings from this exploratory needs assessment revealed that in this context, Montessori-trained teachers and administrators do not have consistent definitions and conceptualizations regarding practices that promote self-regulation (normalization). Self-regulated learning research literature may provide a clearer framework for normalization that teachers and administrators can agree upon that includes concrete tools necessary to normalize their students at the elementary level. Ultimately, the findings from this needs assessment pointed towards the need to further explore solutions concerning the lack of common conceptualizations regarding

normalization, which was determined to be the root of the Montessori teacher evaluation problem.

Chapter 3

Research Relevant to the Montessori Elementary Teacher Evaluation Problem of Practice

As discussed in chapter one, currently there is no available scholarly literature specific to teacher evaluation in a Montessori context. However, evidence from the conventional education literature does show that teacher evaluation is problematic, especially with regard to classroom observation, which is subjective even with valid and reliable measures (Ho & Kane, 2013; Sartain et al., 2011; Weisberg et al., 2009). The literature also shows that the definition of teacher effectiveness has generally narrowed, focusing predominantly on student achievement scores, which is not relevant in a Montessori context (Darling-Hammond, 2010; Darling-Hammond, Jaquith, & Hamilton, 2012; Goe et al., 2008). Additionally, other constructs that may be used to determine teacher effectiveness focus on teachers' knowledge of subject or pedagogical content knowledge (Ball, 2000; Ball et al., 2008; Darling-Hammond, 2009; Shulman, 1986, 1987). Results from survey one of the exploratory needs assessments discussed in chapter two, showed that teacher effectiveness as defined in the literature and the content

knowledge and pedagogical knowledge constructs are not necessarily applicable in a Montessori context (Shaw, 2014). However, results did show that the student behaviors that teachers and administrators perceive as indicators of a teacher's effectiveness do correlate, though not completely, with the definition of what it means to be a self-regulated learner (Schunk & Zimmerman, 2008; Zimmerman, 2001). This result led to a second survey to explore Montessori teachers' and administrators' perceptions of normalization, which was defined as self-regulated learning behaviors (Shaw, 2014).

Results from that second survey ultimately showed that Montessori-trained teachers and administrators have differing conceptualizations regarding student behaviors important to normalization – a central tenet of Montessori pedagogy (Montessori, 1967a) – and teaching practices that promote normalization. This is problematic because administrators evaluate their teachers on observations of students' normalized behaviors, such as their level of concentration and engagement (Shaw, 2014). Thus, the findings from the needs assessment showed the need to further explore solutions to solve the root of the Montessori teacher evaluation problem of practice: the lack of consensus regarding normalization and how to foster normalization. This chapter explores potential solutions provided in the teacher professional development research literature, and teacher efficacy theory is delineated as a theoretical framework for understanding Montessori teachers' potential changes in beliefs and practices through a professional development model.

Teacher Efficacy

The first construct to consider in any professional teacher development model is teacher efficacy because it has been found to be the most important variable necessary for sustainable change in teaching practice (Berman, McLaughlin, Bass, Pauly, & Zellman,

1977, p. 137). Teacher efficacy refers to a teacher's belief about his or her ability to influence student behaviors, performance, and outcomes (Ashton & Webb, 1986; Berman et al., 1977; Tschannen-Moran & Hoy, 2001). Teacher efficacy is derived from Bandura's (1977) more general self-efficacy and outcome expectancy constructs. Self-efficacy refers to one's beliefs about one's abilities to perform tasks and reach goals. Outcome expectancy refers to a generalized belief about the likelihood that behaviors will lead to a specific outcome. Ashton and Webb (1986) adapted self-efficacy theory to teachers, creating the constructs of personal teaching efficacy (derived from self-efficacy) and general teaching efficacy (derived from outcome expectancy). But changing teacher efficacy beliefs relies on Bandura's (1977) theory, which suggests that teachers must engage in mastery, vicarious, and verbal persuasion experiences. Mastery experiences are situations in which one feels successful. Vicarious experiences are those in which one observes others within the same context. And verbal persuasion involves others persuading you through conversations.

Teacher efficacy beliefs drive a teacher's behavior within the classroom with his or her students. For instance, Woolfolk et al. (1990) found that teachers with high teacher efficacy were better able to support their students' autonomy whereas teachers with low teacher efficacy showed more controlling behaviors toward students. Teacher efficacy has also been shown to influence the types of goals that teachers set, their persistence in working with challenging students (Gibson & Dembo, 1984; Tschannen-Moran et al., 1998), and how critical they are of student errors (Ashton & Webb, 1986). Further, in the Montessori context, should a teacher believe that a student is normalized, their likelihood to support this student and persist in the face of challenges is much more likely than if

they deem a student to be non-normalized. In these instances, the teacher may have low teaching efficacy for working with non-normalized students and may not engage in the most effective practices to support the students' academic growth. Thus, teacher efficacy theory is delineated here as a theoretical framework for understanding Montessori teachers' potential changes in beliefs and practices through a professional development model. Teacher professonal development models that impact teacher efficacy are discussed in more detail in the following section.

Teacher Professional Development

Traditional models of teacher professional development use a top-down approach wherein researchers or other trainers teach evidence-based instructional strategies to teachers (Ball & Cohen, 1999; Darling-Hammond, 1996; Darling-Hammond & McLaughlin, 1995). Such an approach not only places the teacher in the role of technician rather than a professional with knowledge and expertise, it is also less likely to lead to deep perceptual shifts regarding teaching and learning that can sustain change in teaching practice (Borko, 2004; Kirschner, Dickinson, & Blosser, 1996; Palincsar, Magnusson, Marano, Ford, & Brown, 1998; Robinson & Bryce, 2013). Further, teachers' beliefs about their own abilities to directly impact student behaviors or performance can also determine whether a professional development program can lead to sustainable teacher practice change (Berman et al., 1977). These are important considerations in designing professional development trainings for teachers of any pedagogy. Trainings for Montessori teachers present additional issues.

Montessori is more than an educational pedagogy, it is also a movement with a strong sense of culture, lineage, tradition, and group identity (Cossentino, 2009;

Whitescarver & Cossentino, 2008). Those who are untrained are viewed as outsiders lacking true understanding of Montessori principles and practices and, thus, are not permitted to fully participate in the community, including professional development courses (Cossentino, 2009). As Cossentino (2009) states, "The absence of a diploma from a reputable training course constitutes a significant gap in expertise" (p. 522). Hence, any expert untrained in Montessori attempting to offer professional development to Montessori teachers is not only unlikely to change perception or to make a lasting impact upon teaching practice but is unlikely to even be given serious consideration. This may be especially true if that expert's approach is top-down and is perceived as attempting to alter the pedagogical scripts gained from Montessori training, which uses a traditional approach (Cossentino, 2009; Whitescarver & Cossentino, 2008). However, a collaborative approach that is sensitive to Montessori teachers' knowledge, expertise, and culture may create the opportunity for teacher learning that leads to greater consensus and understanding regarding normalization and how teachers can foster normalized behaviors in students.

Another issue in developing trainings for Montessori teachers relates to their belief about how normalization occurs and their role in fostering it. According to Montessori pedagogy, normalization only occurs through concentration on freely chosen work for students at the first plane of development, birth through age six (Lloyd, 2008; Montessori, 1967a). Thus, elementary Montessori teachers may not believe they are capable of directly affecting their student's normalization process or behaviors. This is a concern, as the RAND Corporation's study of teacher practice change determined that teacher efficacy – the extent to which a teacher believes he or she has the capacity to

affect student performance – was the most important variable necessary for sustainable change in teaching practice (Berman et al., 1977, p. 137). Thus, further examination into trainings focused on teacher efficacy was necessary.

In this chapter, professional development programs that utilize collaborative and community of practice frameworks and those that target teacher efficacy beliefs are examined. Examining such programs served to inform the creation of a pedagogical development program wherein Montessori teachers and administrators collaborate with researchers to co-construct a mapping of normalization and self-regulated learning theories. It was assumed that through the mapping process Montessori administrators and teachers could a) reach consensus as to which behaviors are important to demonstrating student normalization, and b) determine what teachers should do to foster normalized behaviors in their students. Both outcomes could then lead towards an operationalized definition of normalization that can be used to evaluate teachers on how effective they are at fostering student normalization.

Collaborative Models

Over the last 25 years, researchers have recommended moving away from traditional teacher professional development models to models of collaborative knowledge sharing and inquiry (Butler & Schnellert, 2008; Darling-Hammond & McLaughlin, 1995; Fullan, Bennett, & Rolheiser-Bennett, 1990). Because this researcher is not Montessori trained, this section focuses on collaborative programs that meld the divide between researchers and practitioners (Kirschner et al., 1996) or make teachers the agents of professional change (Nelson & Slavit, 2007).

Kirschner et al. (1996) collaborated with teachers from four public elementary schools across three districts to improve a preservice teacher education program. They used an action research model to move beyond mere cooperation of teachers and researchers to active collaboration. Changing the nature of the researcher/teacher relationship was complex, as the established relationship surrounding this preservice teacher program had delineated clear lines between the university and school staff. The latter was perceived as having practical and situated knowledge while the former was viewed as possessing more formal theoretical knowledge. To meld this divide and move the group from cooperation to collaboration, the group worked together to challenge their assumptions regarding knowledge, which they did through readings and discussion about knowledge and research. This led to a shared view of teaching that included reflective inquiry and research, forming the foundation for a collaborative relationship that allowed the group to create an action plan and a document articulating the program's philosophy. This process included sharing of individual perspectives of what was necessary for the program. Following it, participants no longer viewed their roles and their knowledge as distinctive from the others' and truly collaborative work was enabled.

The process from cooperation to collaboration described in Kirschner et al.'s (1996) study is particularly relevant to exploring solutions that might bring consensus amongst Montessori teachers and administrators regarding behaviors important to student normalization and how teachers can foster same. First, it illustrates possible lines of delineation one may encounter as an outside researcher facilitating the mapping of normalization and self-regulated learning theories with Montessori teachers and administrators. Second, it outlines how to overcome that delineation. Unfortunately,

while this study provides a clear depiction of the process towards collaboration, the authors did not provide their methods for documenting and determining its effects.

Other researchers provide more detailed methods and analysis of group collaboration. Nelson and Slavit (2007) used a case-study design to examine the first year of a three-year professional development project involving five groups of math and science teachers participating in a collaborative inquiry process. The project was structured so that the teachers were the agents of change – the innovators – of effective inquiry-based math and science instructional strategies. The researchers acted as observers within each group and oversaw school district personnel coordination and activity planning and implementation. However, the researchers provided minimal support to each group. Instead, a facilitator with specialized knowledge in math or science education supported each group, which consisted of teachers from both disciplines and multiple grade levels. These facilitators provided group progress data to the researchers through observation notes, semi-annual reports, and monthly meetings. Other data collection methods included audio and video records of group meetings, researcher observer notes, meeting agendas, group interviews, informal conversations with participants, and records from summer and mid-year meetings that included all groups. These data were used to examine teacher activities during the group meetings, the teacher learning opportunities the collaborative inquiry process created, whether or not teachers utilized or missed those learning opportunities, the resources that emerged from the inquiry process, and how this process influenced their classroom practice.

Results showed the value of having a facilitator provide explicit assistance in the inquiry process and guiding teachers towards ownership of it. Results also showed that

while some groups progressed further into the inquiry process than others, all participants valued the opportunity for dialogue across disciplines and grades. From this, the researchers concluded that the real work of collaborative inquiry is beyond the technical aspects of determining a group's focus, examining data, changing instructional strategies and determining the impact on student learning. It is about making explicit the tacit beliefs about teaching, learning, and students that inform practice so as to be able to examine and change those beliefs to improve practice.

Given that the needs assessment discussed in chapter two showed that Montessori teachers and administrators disagree as to which student behaviors are necessary for normalization, a collaborative inquiry process, such as the one described by Nelson and Slavit (2007), can bring to light individuals' beliefs regarding normalization and the need for consensus and more concrete definitions of this concept. Additionally, the teacher-as-agent-of-change structure as described in Nelson and Slavit (2007) is relevant to the mapping of normalization and self-regulated learning theories as the co-construction of a more refined definition of normalization can potentially lead to the ability to scientifically research Montessori's main construct. Montessori education's inability to significantly influence education policy in the U.S. due to a dearth of research and other issues has been a source a frustration for many Montessorians (Whitescarver & Cossentino, 2008). The potential to create opportunities for research that may lead to greater mainstream influence may be appealing to Montessori teachers and administrators and generate enthusiasm for the mapping process.

Community of Practice

Other researchers use a community of practice framework to foster collaboration and ideological shifts that continue to influence teaching practice (Butler, Lauscher, Jarvis-Selinger, & Beckingham, 2004; Palincsar et al., 1998). Communities of practice are groups of people informally bound together through their shared expertise or interest in a particular subject or enterprise and who share knowledge, and experience (Lave, 1991; Wenger, 1998; Wenger & Snyder, 2000). This theory is based upon a sociocultural perspective of learning in which learning occurs through social participation (Vygotsky, 1978). In this context, participation refers to more than mere engagement with others; it refers to a broader process of actively participating in and contributing to social community practices and creating identities in relation to that community. Additionally, *practice* is not viewed as a dichotomous concept wherein practical and theoretical knowledge are opposing and distinct; rather, both are necessary parts of communities of practice. Every individual has his or her own meanings and interpretations of the world, and communities of practice provide the space wherein those individual meanings can be shared, negotiated, and developed (Wenger, 1998).

Community of practice: indicators and establishment. Overall, the three main elements that distinguish a community of practice from other learning communities and groups are: 1) *the domain*: members share an identity based upon a shared domain of interest and are committed to that domain even though people outside the community may not recognize the domain as an area of expertise; 2) *the community*: members build relationships and learn from each other by sharing information, engaging in activities and discussions even if they do not work together on a daily basis; 3) *the practice*:

community of practice members are practitioners who share resources for their shared practice (Wenger, 2011).

Traditionally, communities of practice are considered self-emerging rather than formally established (Wenger, 1998). Palincsar et al. (1998), however, describe their establishment of a community of practice oriented around inquiry-based science teaching. Community members included researchers and 18 kindergarten through grade five teachers. Participants were aware that they were part of establishing a community of practice and were asked what an inquiry-based science teaching community of practice might look like. Overall, three design principles guided the establishment of the community of practice: 1) the community of practice was focused on developing a specific orientation of teaching; 2) the community of practice relied on diverse expertise and resources; and 3) the community of practice activity focused on teaching activities, including planning, enacting, and reflecting. Ultimately, the goal was to move the community members towards expertise in inquiry-based science teaching.

Over a two-year period, participants experienced inquiry-based science learning as actual learners, made connections between learners and teachers, collaborated on planning and teaching, implemented an inquiry-based science classroom curriculum, and shared their classroom experiences. Through these activities, the researchers determined that a community of practice had been established. Evidence for this emerged from situations in which the members negotiated meaning, members testified that their practice had been significantly influenced by other community members, and members of the community initiated two separate study groups to focus on particular topics of interest to all community members.

To determine the success of the community of practice, the researchers suggested two indicators: change in classroom culture and an increase in student assessment outcomes. However, this article focused on successful establishment of a community; thus, evidence of the success of the community of practice itself was not provided though it could be inferred from the examples given. For instance, Palincsar et al. (1998) describe one teacher who testified that his conceptualization of how to engage students in scientific investigation was changed due to 16 different contributions provided by a variety of community members.

Overall, Palincsar et al.'s (1998) article is relevant to this study's problem of practice – that Montessori teachers' and administrators' lack of consensus regarding behaviors important to student normalization – as it demonstrates that teachers and researchers can successfully negotiate meaning. It also demonstrates that community of practice activities can lead to teachers' reconceptualization of aspects of practice. This latter point is relevant to the additional problem in this study: Montessori teachers' and administrators' lack of consensus regarding how to foster students' self-regulated learning.

Community of practice and experiential learning. Some teacher development programs employing a community of practice approach also provide teachers opportunities to experience how their students will learn once the teachers begin using the newly learned teaching strategy gained from the program (Cook & Buck, 2014). Butler et al. (2004) utilized an experiential learning strategy in their newly created community of practice that included teachers and researchers. In their study, they evaluated a two-year model of teacher professional development that merged a

community of practice framework with self-regulated learning theory. The goal for this integrated model was to shift the teachers' paradigm of effective teaching practices to one that included fostering student self-regulation. It uses a self-regulated learning approach with the teachers themselves as they work towards a reconstruction of their professional knowledge to include strategies that foster self-regulated learning behaviors within their own students. Because the intervention scaffolds teachers to experientially learn the same self-regulated learning strategies that they will teach to their students, it is particularly relevant to this study's problem regarding Montessori teachers' and administrators' lack of consensus on how to foster students' self-regulated learning. One of the goals of the mapping of normalization and self-regulated learning theories is to reach agreement as to how teachers can promote students' self-regulated learning behaviors so that teachers can be evaluated for the same. Thus, for this exploratory study's solution it may be relevant to consider how teachers can experientially learn about self-regulated learning strategies. An experiential approach may also appeal to Montessori teachers as their own instructional method is experiential (Montessori, 1967a). Butler et al.'s (2004) study, therefore, is reviewed in depth.

To ensure their community of practice was not perceived by school personnel as providing teachers with an intervention, thus promoting a view of teacher-as-technician, Butler et al. (2004) used the strategic content learning approach (an approach that fosters student self-regulation) to facilitate establishment of common goals and principles of instruction. From there, they worked to co-construct instructional strategies based upon those goals and principles within a classroom context. This led to school personnel eventually reconstructing their knowledge about goals, principles, and teaching practices.

Researchers examined whether or not teachers reflected upon their practice, gained new conceptual understandings that informed revised teaching practices, experienced positive shifts in their teaching practices, and if teachers saw learning and other gains in their own students. In each of the four participating schools, researchers collaborated first with school personnel collectively. Research assistants also visited the classrooms weekly to facilitate data collection, which included collecting completed "teacher reflection forms," and working with teachers to determine how best to evaluate student outcomes. Collaborative meetings were also held across schools, allowing teachers to share their experiences using strategic content learning, troubleshoot issues in small group discussions, and share take-aways gained from those smaller discussions with the larger group.

Findings showed that the teachers' shift in practice was meaningful enough to them to sustain over time. Seeing the student gains – improved problem solving, self-awareness, active and reflective learning, and independence – seemed to further motivate the teachers' continued use of the strategic content learning approach. Teachers also reported that the most effective in-service activities included the initial workshops wherein the theoretical framework was established, observing others use the strategic content learning approach within the classroom, practicing the approach themselves, receiving feedback from an observer, reflecting upon their own practice, collaborating with other teachers on problem-solving, and interacting with a passionate strategic content learning approach expert.

While the study findings are positive overall, Butler et al. (2004) note that there were challenges to implementation. For instance, classroom assistants were not involved

in the program and while they could see the value of the new instructional method, they had difficulty implementing it. Thus, it may be important to consider having classroom assistants participate in the mapping process as the teachers begin thinking how they can foster students' self-regulated learning behaviors. The most critical challenge Butler et al. (2004) had, however, was the teachers' dependence upon the researchers during the program's first year. The teachers seemed to think that having an "expert" was necessary to support their continued use of the strategic content approach in their classrooms. This latter challenge may not be such an issue with the mapping of normalization and self-regulated learning theories, which should enhance Montessori trained teachers' and administrators' understanding of normalization rather than shift its entire meaning. Additionally, as they consider strategies to promote student normalization, they – as the pedagogical experts – will know best how to do this rather than an untrained outside expert (Cossentino, 2009). Thus, this situation is different than that of the teachers' in Butler et al.'s (2004) study as they were completely reconceptualizing their ideology of teaching and learning.

Models Impacting Teacher Efficacy

Some of the models described above also impact teacher efficacy beliefs (Ashton & Webb, 1986). For instance, both community of practice and teacher efficacy theories were central to Takahashi's (2011) examination of the relationship between teachers' efficacy beliefs and evidence-based decision-making practices. In this study, four teachers from a low-performing junior high school with a low income population participated in workshop sessions wherein they examined student work and negotiated its meaning. The author chose this particular school thinking that the teachers' efficacy

beliefs might be at risk given the teachers' practice of making evidence-based decisions yet still having low performing students. Results showed that 1) participants collectively negotiated and assigned meaning to student data and also to the process of examination itself, and 2) that those co-constructed meanings were fundamental to their strong efficacy beliefs. This study illustrates the need to consider how negotiation of meaning occurs within a community of practice, not just an individual context, and how co-constructed meanings affect teacher efficacy beliefs.

Other studies show how the length of professional development programs can impact teachers' efficacy beliefs. Dixon, Yssel, McConnell, and Hardin (2014), for instance examined teachers' efficacy beliefs in relation to differentiating instruction. Teachers were asked to complete two measures of efficacy: 1) the Teacher Self-Efficacy Scale (TSES; Tschannen-Moran & Hoy, 2001), which measures teacher efficacy related to a broad range of teacher tasks that fall within three broad categories – instructional strategy, student engagement, and classroom management, and 2) the Teacher Efficacy Scale (TES; Gibson & Dembo, 1984), which divides efficacy related to teaching into personal efficacy (a teacher's judgments about one's own abilities) and teaching efficacy (what teachers believe about teaching in general). Subjects also provided data as to how many hours they spent in workshops teaching instruction differentiation strategy. The researchers found that the more time teachers spent learning about differentiating instruction (10 or more hours), the stronger their efficacy beliefs were about their ability to implement the strategy in their classrooms. However, those who attended typical two-hour workshops had low efficacy beliefs about instruction differentiation. This study shows the need to spread out the mapping process for Montessori administrators and

teacher over a longer time period than typical professional development programs. A longer process also aligns with collaborative (Kirschner et al., 1996) and community of practice frameworks (Wenger, McDermott, & Snyder, 2002), which require time to create sustainable change in teacher practice (Butler et al., 2004).

Cantrell and Hughes (2008) also recommend engaging teachers in extended professional development programs to change teachers' perceptions about their ability to impact students. In their study, teachers were engaged in a yearlong program focused on literacy teaching. Teachers initially participated in a weeklong summer institute followed by monthly visits from a literacy coach, who conducted team meetings and one-on-one sessions. Additionally, three follow-up meetings wherein teachers from a variety of schools, grade levels, and subject areas gathered to share insights, experiences, and approaches to literacy teaching occurred during the school year. The summer institute and monthly coaching meetings and sessions were conducted in a collaborative manner and included self-reflection and lesson modeling. The researchers suggest that the opportunities for collaboration contributed to the program's impact on teacher efficacy, which increased at the end of the program.

Interestingly, the researchers also found that those teachers with high teacher efficacy beliefs at the beginning of the program were more likely to immediately implement newly learned literacy strategies within their classrooms compared to teachers with low efficacy beliefs. However, even those with initially high efficacy were shown to dip in efficacy during the school year as the teachers struggled with the new strategies. But the beliefs rebounded once teachers began to experience success with their students. This illustrates not only the need to understand teachers' efficacy beliefs prior to

implementation of a professional development program, but it also illustrates the non-linear nature of those beliefs.

Within a Montessori context, teachers' understanding of normalization will influence their teaching efficacy beliefs, which will, in turn, affect how or if they help students demonstrating non-normalized behaviors to normalize (Ashton & Webb, 1986; Woolfolk et al., 1990). If a teacher believes that students are normalized only prior to age six, that teacher may possess a low sense of teacher efficacy, believing nothing can be done to promote that student's normalization because the student is older than age six. Further, the teacher's strategy for interacting with non-normalized students may be more controlling, focusing on "containment and control" (Ashton & Webb, 1986, p. 81), rather than guidance towards normalization. Thus, a teacher professional development program that explores normalization through the lens of teacher efficacy theory may serve to increase teachers' sense of efficacy surrounding this Montessori construct and the instructional practices associated with those beliefs.

Conclusion

This chapter delineated teacher efficacy theory as a theoretical framework for understanding Montessori teachers' potential changes in beliefs and practices through a professional development model. It also reviewed research on the development and implementation of teacher professional development programs that utilized collaborative and community of practice frameworks and those that targeted teacher efficacy. Each study was evaluated for its potential to inform a solution to the root of the Montessori teacher evaluation problem of practice: the lack of consensus regarding normalization and how to foster normalization. Thus, based on this literature review and the root of the

problem, the proposed solution to this problem was a pedagogical development program wherein Montessori trained teachers and administrators collaborate with a researcher to co-construct a mapping of normalization and self-regulated learning theories. Collaboration to build consensus regarding normalization is essential as administrators are likely to evaluate teachers on their ability to foster students' normalization. Additionally, in order to change teachers' and administrators' perceptions of normalization and how teachers can foster the same, understanding their teacher efficacy beliefs could be informative to understanding this process and how their efficacy for fostering normalization may directly depend on their conceptualization of the normalization construct.

Overall, based upon the research described herein, a pedagogical development program grounded in a community of practice wherein normalization is explored through the lens of teacher efficacy theory was considered the most effective solution for the Montessori teacher evaluation problem of practice. As depicted in Figure 1, administrators utilize classroom observation procedures to observe teachers' behaviors and students' normalized behaviors to determine a teacher's effectiveness (Sartain et al., 2011). However, without a shared understanding of normalization and how teachers should foster normalization, the effectiveness of such a system is questionable (Danielson, 2007).

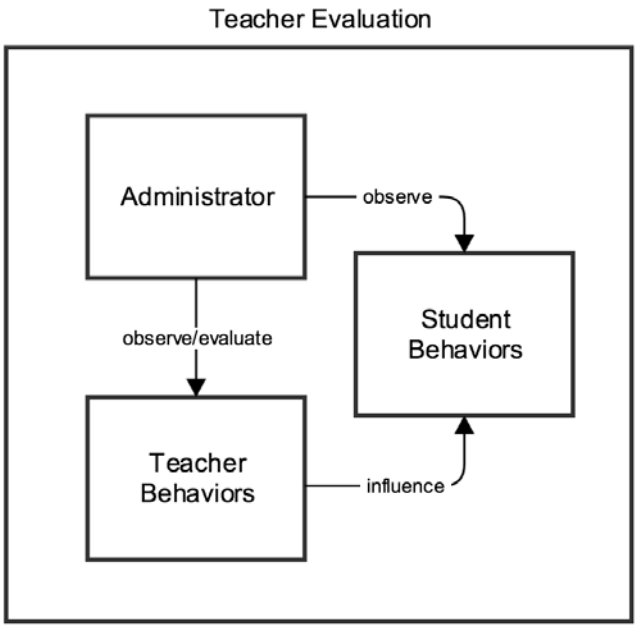

Figure 1. Teacher evaluation process during classroom observation. Administrators utilize classroom observation procedures to observe teachers' behaviors and students' normalized behaviors to determine a teacher's effectiveness (Sartain, Stoelinga, & Brown, 2011).

To remedy this issue, teachers and administrators need to reach consensus on behaviors important to student normalization and how teachers should foster student normalization so there is a clear understanding of what is expected of the teacher and what might be evaluated. Thus, exploration of administrators' and teachers' knowledge of normalization was needed. The administrators' knowledge influences his or her teacher efficacy beliefs regarding normalization, which then influences what behaviors the administrator looks for during classroom observation procedures. For teachers, their knowledge influences their teacher efficacy beliefs, which then drives their behaviors with students in the classroom, thus influencing student behaviors (Ashton & Webb, 1986). These processes are depicted in Figure 2.

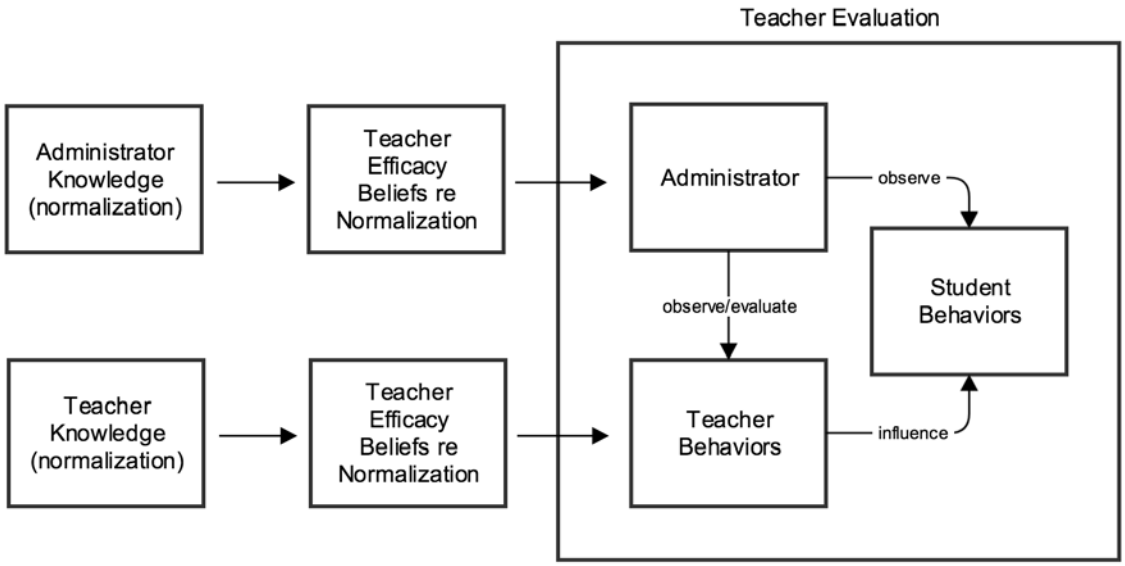

Figure 2. Process by which knowledge and teacher efficacy beliefs influence the teacher evaluation process. Knowledge influences teacher efficacy beliefs, which influences what administrators look for during classroom observation procedures and how teachers and, in turn, students, behave in the classroom (Ashton & Webb, 1986).

A community of practice can impact teacher's knowledge (Lave & Wenger, 1991) of normalization (Montessori, 1967a) and self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986) as well as their teacher efficacy beliefs, which influence their classroom practice and, in turn, student behaviors (Ashton & Webb, 1986). Thus, the community of practice may increase teachers' sense of efficacy regarding normalization and self-regulated learning. Similarly, the community of practice (Lave & Wenger, 1991) can also impact administrators' knowledge and teacher efficacy beliefs, influencing the types of teacher and student behaviors they look for during their classroom observations as part of their teacher evaluation process (Ashton & Webb, 1986). Further, exploring normalization (Montessori, 1967a) as a construct related to self-regulated learning

(de Boer et al., 2013; Zimmerman & Pons, 1986) can move both teachers and administrators towards a shared and clear conceptualization of normalization, improving the teacher evaluation process as a whole (Danielson, 2007). The full concept map for this study is provided in Figure 3.

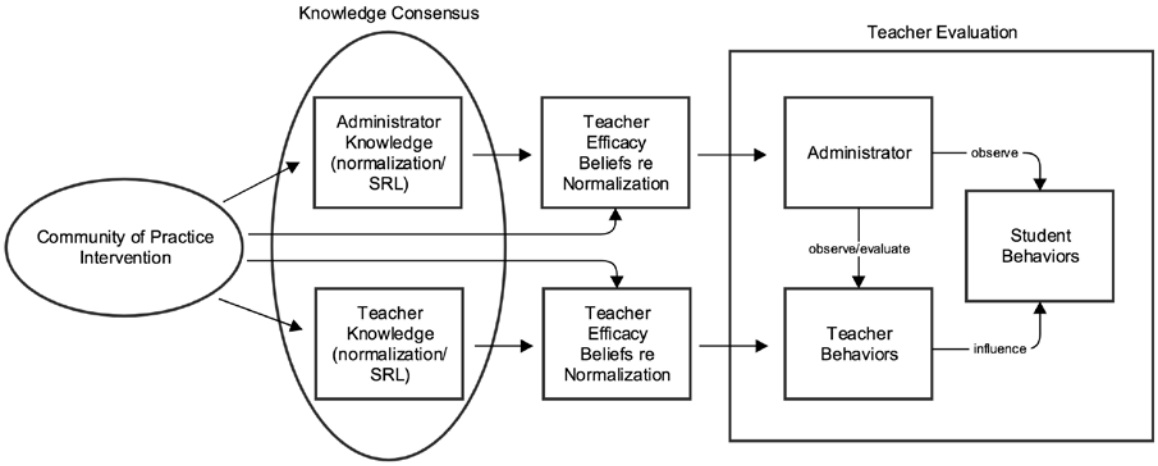

Figure 3. Concept map of pedagogical development program grounded in a community of practice and guided by teacher efficacy development as a solution to the Montessori teacher evaluation problem of practice. The community of practice can impact administrators' and teachers' knowledge of normalization and self-regulated learning, enabling them to reach consensus regarding such knowledge. This consensual knowledge then influences their teacher efficacy beliefs (Ashton & Webb, 1986). For administrators, a change in teacher efficacy beliefs influences the instructional practices, and the types of teacher and student behaviors they look for during classroom observations as part of the teacher evaluation process. For teachers, a change in teacher efficacy beliefs drives their classroom behaviors, in turn, influencing their students' behaviors.

Finally, the co-construction of a mapping of normalization and self-regulated learning theories may also pave the way for scientific research of Montessori education's central construct. In fact, due to the lack of research specific to Montessori teacher evaluation, this work marks the nascent exploration of professional development research in this more unique and specific educational context.

Chapter 4

Methodology

As discussed in chapter two, Montessori trained teachers and administrators in this study's context lacked consensus as to which behaviors are important to student normalization, and how teachers can foster the same (Shaw, 2014). Because administrators are likely to evaluate teachers on their ability to foster normalization, consensus on these two issues is essential. To build consensus, a pedagogical development program grounded in a community of practice guided by teacher efficacy theory was deemed the most effective solution to reaching consensus. This chapter discusses the design of the program and the theory of change in which it was grounded.

Purpose

The purpose of this study is to explore 1) the establishment of a community of practice oriented towards mapping normalization (Montessori, 1967a) to self-regulated learning theory (Schunk & Zimmerman, 2008; Zimmerman, 2001; Zimmerman, 2002; Zimmerman & Schunk, 1989), 2) changes in Montessori teachers' and administrators' perceptions of the construct of normalization through this process, 3) changes in their perceptions of how teachers can foster student normalization, and 4) their perceptions of

the community of practice itself. Because there is currently no available research specific to teacher evaluation in a Montessori context, this study is the first of its kind.

Research Design

Due to the exploratory nature of this study, its specific educational context, and its purpose, the study's design is ethnographical (O'Leary, 2014). Ethnography focuses on the study of cultural groups, and as stated in the previous chapter, Montessori is more than an educational method: it is also a movement with a strong sense of culture, lineage, tradition, and group identity (Cossentino, 2009; Whitescarver & Cossentino, 2008). Those trained in Montessori often view outside experts as lacking understanding of Montessori principles and practices and, thus, may not be permitted to fully participate in the community, including professional development courses (Cossentino, 2009). However, in this study, an outsider researcher not trained in Montessori participated in establishing a community of practice with Montessori trained teachers (Lave & Wenger, 1991; Wenger, 1998). In a community of practice, every individual is thought to have his or her own meanings and interpretations of constructs, and together members can share those meanings, and negotiate and develop them.

This author's participation in the community of practice further supports an ethnological approach, which often employs immersion methods (O'Leary, 2014). Additionally, ethnographical methods aim to understand the participants' point of view; and this exploratory study's focus seeks to determine participant's perceptions of normalization, normalization in relationship to self-regulated learning, how teachers can foster student normalization and self-regulation, and changes in practices and beliefs as a

result of the community of practice framework itself. Research questions that guided this study include:

RQ1 a) What are the definitions of normalization prior to, during, and after the community of practice mapping process?

b) Did the community of practice mapping process change teachers' and administrators' perceptions of behaviors important to student normalization?

c) How did the program change teachers' and administrators' perceptions of behaviors important to student normalization?

RQ2 a) Did the program change teachers' and administrators' perception of how to foster student normalization?

b) How did the program change teachers' and administrators' perception of how to foster student normalization?

RQ3 a) How do participants perceive the mapping process? b) What part of the process was the most or least effective?

RQ4 Was a community of practice established amongst researchers and Montessori teachers and administrators?

RQ5 a) What perceptions of teacher evaluation do Montessori teachers and administrators have after discussing normalization and self-regulation?

b) What would be their recommendations for a teacher evaluation system specific to Montessori?

Description of the setting. The Montessori teacher evaluation problem was explored within an independent non-profit Montessori school, Mountain Montessori.

Mountain Montessori serves children ages 18 months through 15 years old. A board of trustees consisting of parents whose children attend the school governs the school. The elementary program includes two lower elementary classrooms (ages six to nine), and one upper elementary classroom (ages nine to twelve). Each classroom also has an assistant who is primarily responsible for assisting the teacher and not the students so that students do not become adult-dependent. Assistants are not required to be Montessori trained. The Montessori teachers are all AMI elementary trained and are responsible for evaluating their assistants with only some input from administration.

Finally, it should be noted that the elementary program does not provide tests, homework, or grades to its students.

Participants. The study included four participants: three Association Montessori Internationale (AMI) Montessori trained elementary teachers and one administrator trained in AMI Montessori at both the primary and elementary levels with 10 years of teaching experience. Pseudonyms were assigned to the elementary teachers. Samantha, the most senior elementary teacher (and not an administrator), was in her fourth year of teaching at the time of this study. She began working at the school the fall after she completed her training. Her class consisted of 28 lower elementary students, ages six to nine. Pamela, the only other lower elementary teacher in the school, was in her first year of teaching at the time of this study, and she also had 28 students in her class. Angela, another first year teacher at the time of this study, taught an upper elementary class with 27 students ranging in age from nine to twelve years old. However, unlike Pamela who was the lead teacher in her class starting at the beginning of the school year, Angela was

only a few weeks into being the lead teacher in her classroom due to another teacher's sudden change in position.

Community of Practice Meetings Implementation Description

This section provides a detailed description of the implementation of the community of practice meetings and is organized by the following subsections: community of practice meetings, additional interactions, normalization discussions, and self-regulated learning discussions.

Community of practice meetings. Formal community of practice meetings were held for approximately six months from January 12, 2016 to June 9, 2016. Meetings generally occurred bi-weekly, with some occurring as much as three weeks apart due to participants' scheduling issues. Participants collaboratively determined the meeting schedule and all meetings were held at the school. The frequency of the meeting schedule determined by participants is consistent with research showing that frequent formal meetings help to establish a community of practice (Palincsar et al., 1998; Wenger et al., 2002). Additionally, having all members determine the meeting schedule helped to meld the divide between the researcher who is not Montessori trained with the participants who are Montessori trained (Butler et al., 2004; Palincsar et al., 1998). Overall, a total of nine group meetings were held. Most meetings (six) occurred during the teachers' lunch hour in a conference room and lasted approximately 45 minutes each. Two meetings occurred after school, and one occurred during in-service the week after the school year ended, allowing those meetings to extend to approximately 90 minutes each. Additionally, one-on-one meetings between the researcher and each participant were held in each teacher's classroom and the administrator's office. The duration of each of those meetings was

approximately 45 minutes. Out of the nine group meetings, only the administrator and one of the teachers were unable to attend one meeting. In all, 13 group and individual community of practice meetings totaling approximately 13 hours in time were held over a six-month period. This is consistent with the teacher efficacy literature, which shows that teachers who spend 10 or more hours learning about new practices can increase their efficacy beliefs surrounding implementation of those new practices within their classrooms (Dixon et al., 2014).

During the formal meetings, the researcher facilitated a process of question and discussion. The researcher would ask a question of the group related to a pre-planned topic or a topic related to the discussion from the previous group session. Pre-planned topics and actual topics discussed are shown in Table 6. After the researcher presented a question, the participants' discussion would organically lead to topics the researcher had not previously planned, which led to an unplanned, additional ninth session. Overall, discussions naturally followed the three design principles described in Palincsar et al. (1998): 1) focus on developing a specific orientation of teaching (normalization and self-regulated learning), 2) rely on diverse expertise and resources, and 3) focus on teaching activities, including planning, enacting, and reflecting.

Table 6

Pre-Planned and Actual Group Session Meeting Topics

Group Session	Pre-Planned Topics	Actual Topics
Session 1	Introduction	Introduction
	Needs assessment results	Needs assessment results
	Community of practice	Community of practice
	Begin discussing normalization	Begin discussing normalization
	Normalization as critical period in development	Normalization as critical period in development
Session 2	Negotiate meaning of and operationalize normalization	Normalization of non-Montessori students in elementary
		Normalization in context
		Normalization as transformation of the personality - theory
Session 3	Negotiate meaning of and operationalize normalization	Negotiate meaning of and operationalize normalization
	Introduce self-regulated learning definitions	
Session 4	Begin mapping normalization and self-regulated learning	Introduce self-regulated learning definitions
		Discuss self-regulated learning strategies as defined by Zimmerman and Pons (1986) already in use in classroom
Session 5	Determine new strategies to try in the classroom	Begin mapping normalization and self-regulated learning
Session 6	Report back on new strategies used in classroom	Normalization as transformation of the personality – theory versus practice
	Continue mapping process	
Session 7	Complete mapping process	Normalization as transformation of the personality – theory versus practice
Session 8	Teacher evaluation, community of practice process and mapping processes	AMI trainers' views of normalization
		de Boer et al.'s (2013) self-regulated learning strategies
		Continue mapping process
Session 9	-	Mapping process completed
		Teacher evaluation, community of practice and mapping processes

Other activities derived from Palincsar et al.'s (1998) principles included negotiation of meaning of normalization in relationship to self-regulated learning theory (Cleary & Zimmerman, 2004; Schunk & Zimmerman, 2008; Zimmerman, 2001; Zimmerman, 2002), making connections between student normalization and teachers, collaboration on strategies that foster self-regulated learning/normalization, implementing self-regulated learning/normalization strategies, observations of each others' classrooms, and sharing of classroom experiences. These activities provided opportunities for teachers to engage in mastery, vicarious, and verbal persuasion experiences, all of which influence teacher efficacy (Bandura, 1977).

Additional interactions. Outside of the group and individual community of practice meetings, the researcher also spent approximately one hour observing in each teacher's classroom. Additionally, the researcher and participants attended the yearly AMI/USA Refresher Course held in Long Beach, California, February 19 – 22, 2016, wherein they briefly interacted. All of these informal interactions helped to strengthen the researcher and participants' shared identity based upon their shared domain of interest (Wenger, 2011) – Montessori education – which then helped to strengthen the community of practice.

In an effort to further strengthen the community of practice, the researcher provided numerous opportunities for participants to determine meeting times and other data collection methods, such as taking field notes so participants could share them with the group. However, because the school was going through its admission process for the following school year, which includes numerous meetings with prospective families and

daylong visits of prospective students, participants preferred to limit their participation primarily to the formal meetings.

Normalization discussions. The first meeting was held on January 12, 2016. It began with the researcher introducing the community of practice process, discussing the teachers' and administrator's participation in forming the community of practice, and sharing the results of the second needs assessment (see chapter two). Sharing the needs assessment's results, which showed that Montessori teachers' and administrators' lack consensus regarding behaviors important to student normalization and how teachers can foster student's normalized behaviors, initiated negotiation of the meaning of normalization and discussion of how teachers can and do foster student normalization. Initial insights gleaned from this first discussion included: a) normalization is subjectively interpreted, b) normalization can be confused with other non-normalized behaviors, and c) teachers can and do foster student normalization. This latter insight then led to questions and discussion in the second meeting about accepting children into the elementary who have no Montessori experience, which further expanded the discussion around behaviors important to normalization and how teachers can foster those behaviors. General insights gleaned from the second session were a) the teachers see normalization as a developmental process extending beyond the first plane of development – the first six years of life – and b) students' normalized behaviors are context dependent.

In the third session, participants explored Maria Montessori's definition of normalization by negotiating the meaning of and operationalizing the behaviors she identified: concentration, high sociability, love of work, and discipline (Montessori, 1967a). Participants reached initial consensus regarding behaviors important to

normalization, but continued to negotiate meaning throughout the program to better refine their definitions. Normalization as a topic was generally put aside during session four to introduce the self-regulated learning definitions and strategies (de Boer et al., 2013; Zimmerman & Pons, 1986); however, participants did discuss how self-regulated learning and normalization share common goals (Zimmerman, 2006). Participants returned to normalization in session five as they began the mapping process.

During group sessions six and seven, normalization as a transformation of the personality (Lloyd, 2008; Montessori, 1967a) dominated the discussion as participants examined it from both theory and practice perspectives, identifying gaps between the two. This discussion led to some participants reaching out to AMI trainers to obtain their perspectives on normalization. Initially, participants were concerned that because normalization is not used at the elementary level in theory and in training that their mapping of normalization to self-regulated learning would mean they were changing AMI pedagogy. However, given the trainers' subjective interpretations of normalization, which were provided and discussed in the eighth group session, this concern was alleviated. Participants returned to the mapping process, completing it in the final group session (session nine). All group session meeting topics related to normalization and the insights gleaned from each session are shown in Appendix C.

Self-regulated learning discussions. Though self-regulated learning was briefly discussed in the introduction of the first group session meeting, it was not until the fourth meeting that the researcher presented two formal definitions of self-regulated learning to participants. The first definition was from Pintrich (as cited in de Boer et al., 2013):

> …an active process whereby learners set goals for their learning and then attempt to monitor, regulate, and control their cognition, motivation and

> behavior, guided and constrained by their goals and the contextual features in their environment (p. 3).
>
> The second definition was from Schunk and Zimmerman (1997):
>
> …the process by which learners personally activate and sustain cognitions, affects, and behaviors that are systematically oriented toward the attainment of learning goals (p. vii).

The development levels of self-regulation (observational, imitative, self-controlled, and self-regulated) along with the three phases of the self-regulated learning process (forethought, performance, and self-reflection) were also introduced during the fourth group session (Bell & Pape, 2014; Zimmerman, 2002). Participants then began discussing the common goals of normalization and self-regulated learning theory. They also began examining the self-regulated learning strategies as identified by Zimmerman and Pons (1986), comparing those strategies with behaviors they had identified and agreed were important to normalization. Participants also discussed strategies they currently use to foster normalized behaviors in students. This organically created opportunities in which participants could engage in verbal persuasion experiences, which are necessary for changing teacher efficacy beliefs (Bandura, 1977).

The processing of mapping normalization to self-regulated learning, referred to as the "mapping process" throughout this dissertation, began in the fifth group community of practice meeting, and participants began to see how the two constructs correlate. However, the mapping process was put aside in the sixth and seventh sessions as discussions turned to normalization as a "transformation" or "conversion" of the child's personality (Lloyd, 2008; Montessori, 1967a, 1967b). Self-regulated learning, particularly de Boer et al.'s (2013) strategies, was revisited in session eight as participants continued the mapping process. The mapping process was completed during

the ninth and final group meeting. It was also during this final meeting that participants reflected upon teacher evaluation, and their experiences of this pedagogical program. For an overview of topics discussed and the insights gleaned per session, see Appendix C.

Data Collection

This section describes the different data that were collected and the methods of analysis.

Constructed-response survey. Two weeks prior to the first meeting, the researcher emailed participants the Teachers' Sense of Efficacy Scale long form (TSES; Tschannen-Moran & Hoy, 2001), which was converted from a Likert-type scale to constructed response items. The completed scales were returned to the researcher during the first community of practice meeting. The TSES captures three dimensions of teacher efficacy: efficacy for facilitating instructional strategies, efficacy for garnering student engagement, and efficacy for classroom management. All three dimensions also appear to capture some aspects important to self-regulated learning, such as student motivation, student behaviors, and student beliefs (Perry et al., 2008). Additionally, this measure is more aligned with Montessori pedagogy than other teacher efficacy measures (Gibson & Dembo, 1984) because its questions do not refer to grades, tests, or giving students assignments. Finally, it has been used to examine self-efficacy of Montessori teachers in at least one other study (Bhatia, 2012).

After the final meeting, participants received another constructed response TSES and were asked to complete it without referring to their first version (assuming they had saved it). All of the teacher participants completed both surveys. However, the administrator was unable to complete the TSES due to significant time limitations.

Individual interviews. Between the third and fourth group meetings, the researcher conducted one-on-one interviews with each participant. These meetings provided the space to delve deeper into each participants' perspective and experience regarding normalization. Specifically, the researcher was interested in understanding how normalization theory as learned during their teacher training affected their personal and general teaching efficacy beliefs (Gibson & Dembo, 1984; Tschannen-Moran et al., 1998). Questions for these interviews included: 1) What were your expectations regarding the children's normalization when you first entered the classroom after training? 2) Did your observations of the children match your expectations? 3) How were your observations different or similar to your expectations? 4) How are you fostering normalized behavior in your classroom? 5) Through your observations of the children, have you discerned an overall process that they go through as they normalize?

Transcripts and notes. After every community of practice meeting, the researcher wrote hand-written notes and had the meeting audio files transcribed. The transcripts and notes were read prior to each future meeting so as to inform the direction of the next meeting's topic and determine questions for elaboration and/or clarification. An online service (Rev.com) was used to facilitate the transcription process. Upon receipt of each transcript, the researcher checked it against the audio file to ensure accuracy. This process represents what Schatzman and Strauss (1973) refer to as an "analytic strategy" (p. 108) wherein the researcher analyzes the data and adjusts his or her observation (or in this case, questioning) strategies based on that data to gain deeper understanding of what is being studied.

Data Analysis

This section describes the process for data analysis. Valid and reliable qualitative analyses take on many iterations. The process described below describes the various coding procedures.

Coding. Theory-generated codes based on the research questions outlined at the beginning of this chapter were identified prior to the transcription of the first meeting and are identified as the first iteration of codes in Table 7. However, as each meeting was transcribed and analyzed along with the researcher's field notes, emergent codes were realized, leading to a second iteration of codes (Saldana, 2009). This process of predetermined and emergent coding allowed for flexible and deeper exploration of the normalization construct in relation to self-regulation during the community of practice meetings (Marshall & Rossman, 2011). Additionally, it was the emergent codes that led to altering the roughly sketched pre-planned course of the study, which initially only included eight group meetings. However, due to the participants' need to further explore normalization, this initial course was somewhat altered and extended to include a ninth meeting. Finally, after substantial "cuddling" with the data, as recommended by Marshall and Rossman (2011, p. 210), and numerous conversations with a peer reviewer and a peer checker, a third iteration of final themes emerged, as identified in Table 7. All coding was conducted in NVivo, a qualitative data analysis software.

Table 7

Three Iterations of Analysis

First Iteration – Initial Codes		
Normalization	Self-regulated learning	Teacher efficacy
Concentration	Cognitive strategies	Fostering normalization
Discipline	Management strategies	General teaching efficacy
High sociability	Metacognitive knowledge	Personal teaching efficacy
Normalized behaviors	Metacognitive strategies	
Non-normalized behaviors	Motivation strategies	Teacher evaluation
Work	Community of practice	Classroom observation

Second Iteration – Initial and Emergent Codes (in italics)		
Normalization	Self-regulated learning	Teacher efficacy
Challenging work	Cognitive strategies	*Classroom management*
Classroom culture	Management strategies	Fostering normalization
Concentration	Metacognitive knowledge	General teaching efficacy
Confusion w/other behaviors	Metacognitive strategies	*Instructional strategies*
Context	Motivation strategies	Personal teaching efficacy
Critical period	*Framework for learning*	*Teacher expectations*
Developmental process	*Beyond self-regulated learning*	*Teacher-directed*
Discipline		*Student engagement practices*
High sociability	Community of practice	*Student-inclusive*
Normalized behaviors	*Negotiation of meaning*	*Verbal persuasion*
Non-normalized behaviors	Mapping process	Teacher evaluation
Peer influence	*Perception change*	Classroom observation
Problem-solving	*Common language*	
Seeking help		
Self-directed		
Student interest		
Subjective interpretation		
Theory-practice gap		
Transformation of personality		
Work		

Third Iteration – Final Themes	
Theme 1	Normalization as a continuous developmental process
Theme 2	Normalization in relation to self-regulation
Theme 3	Changes in teachers' efficacy beliefs and behaviors

Trustworthiness

Trustworthiness concerns "the goodness of qualitative research" (Marshall & Rossman, 2011, p. 39). According to Cho and Trent (2006) qualitative research validity is viewed as a process and the methods demonstrating validity are dependent upon a study's overarching purpose. Because this study seeks to explore, understand, and potentially change Montessori teachers' and administrators' perception of normalization and how to foster it in students, this study's validity process was be based upon a praxis/social purpose. Validity as a process in this realm involves inquiry with participants who are also co-researchers. Additionally, to ensure validity, the researcher must be open with participants about her own subjectivity and how it may be challenged and transformed through the participant interaction. This involves three specific processes, 1) member checks as reflexive wherein the researcher and participants engage in dialogue exchanges that verbalize constructions and reconstructions of all participants; 2) reflexive member checking that clarifies participants' lived experiences; and 3) critical reflexivity of self wherein the researcher is challenged to encounter something unknown while continuing to move on with the study (p. 332).

In an effort to ensure the trustworthiness of this study, all of the described validity as process methods were utilized during the formal and informal community of practice meetings. Additionally, triangulation, a technique involving the use of more than one data source, was also be employed (Creswell & Plano Clark, 2011; Marshall & Rossman, 2011). Data sources included transcriptions of meetings as well as meeting and field notes.

Personal Biography

I entered the Montessori community in 2006 as a parent. By 2007, I was the head of my children's Montessori school. My tenure as a head of school allowed me to learn about Montessori's pedagogy, which I viewed through the lens of the psychological research given my training as a marriage and family therapist. My experience working as a therapist within a public school district also informed my view of Montessori education and fueled my passion for it.

However, I was not immediately accepted into the Association Montessori Internationale community. As stated earlier, those untrained in Montessori are viewed as outsiders and can be treated as such (Cossentino, 2009). I experienced outsider treatment from some administrators and even some of the teachers I employed. Overall, however, I have experienced far more positive interactions than negative ones. I have worked closely with trained Montessorians who are not only passionate about the method, but are also passionate about engaging in intellectual inquiry regarding the theory and the best ways to implement it. These positive experiences coupled with seeing the development of my own children during their Montessori journey continues to drive my passion for this pedagogy. However, my views of Montessori continue to be informed by research in education, cognitive psychology, and neuroscience, which leads to more questions than definitive answers.

These personal experiences were considered while engaging as a participant in this study and during data analysis. My personal bias includes my preference for Montessori over conventional educational methods and my belief that normalization is related to self-regulated learning. Thus, as I analyzed the data, I counteracted my bias by

consulting with a peer reviewer to ensure that my observations were not unduly influenced by my personal leanings in this theory.

Ethical and Political Considerations

In ethnographical studies, ethical considerations usually involve negotiating entry, role maintenance, receptivity, and reciprocity (Marshall & Rossman, 2011). For this study, because participants were not involved in dangerous or nefarious activity, few ethical dilemmas were anticipated.

Regarding political considerations, this study focused on working with teachers who are Association Montessori Internationale (AMI) trained. Other teacher training organizations, regardless of pedagogy, may wish to co-opt some of the information contained in this study for the purposes of negating the reputation of AMI or the validity of Montessori education in general. I will do whatever is necessary to help ensure that information does no harm to AMI or any other Montessori organization.

Chapter 5

Findings

Montessori administrators evaluate Montessori trained teachers' ability to foster student normalization through classroom observations. However, as discussed in chapter two, the Montessori teachers and administrators in this study's context lack consensus regarding behaviors they deem important to student normalization and how teachers can foster normalization (Shaw, 2014). Thus, to reach consensus on these two issues, a pedagogical development program grounded in a community of practice wherein normalization was explored through the lens of teacher efficacy theory was provided to one school's Montessori trained elementary teachers and administrator. Additionally, the program also explored whether normalization mapped to an existing construct in the scholarly literature – self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986) – to help further operationalize Montessori's normalization construct. This chapter provides the program's findings.

Findings for the research questions presented in chapter four are answered in the following sections, as shown in Table 8, with supporting data: a) community of practice, b) theme 1 – normalization as a continuous developmental process, c) theme 2 – normalization in relation to self-regulation, d) theme 3 – changes in teachers' efficacy

beliefs and behaviors, e) teacher evaluation – participants' perceptions, and f) the most and lease effective parts of the mapping process. Three of these sections include the main themes that emerged from the data (Saldana, 2009).

Table 8

Chapter Sections and Research Questions

Community of practice	
RQ3	a) How do participants perceive the mapping process?
RQ4	Was a community of practice established amongst researchers and Montessori teachers and administrators?
Theme 1 – Normalization as a continuous developmental process	
RQ1	a) What are the definitions of normalization prior to, during, and after the community of practice mapping process?
RQ1	c) How did the program change teachers' and administrators' perceptions of behaviors important to student normalization?
Theme 2 – Normalization in relation to self-regulation	
RQ1	a) What are the definitions of normalization prior to, during, and after the community of practice mapping process?
RQ1	b) Did the community of practice mapping process change teachers' and administrators' perceptions of behaviors important to student normalization?
RQ1	c) How did the program change teachers' and administrators' perceptions of behaviors important to student normalization?
Theme 3 – Changes in teachers' efficacy beliefs and behaviors	
RQ1	c) How did the program change teachers' and administrators' perceptions of behaviors important to student normalization?
RQ2	a) Did the program change teachers' and administrators' perception of how to foster student normalization?
RQ2	b) How did the program change teachers' and administrators' perception of how to foster student normalization?
Teacher evaluation – participants' perceptions	
RQ5	a) What perceptions of teacher evaluation do Montessori teachers and administrators have after discussing normalization and self-regulation?
RQ5	b) What would be their recommendations for a teacher evaluation system specific to Montessori?

Teacher evaluation – participants' perceptions	
RQ5	a) What perceptions of teacher evaluation do Montessori teachers and administrators have after discussing normalization and self-regulation?
RQ5	b) What would be their recommendations for a teacher evaluation system specific to Montessori?
The most and least effective parts of the mapping process	
RQ3	b) What part of the process was the most or least effective?

To orient the reader towards the overall study process and findings, an overview showing topics discussed and the insights gleaned from each community of practice group session is provided in Appendix C.

Finally, to refamiliarize the reader with the participants, a summary of their backgrounds is provided in Table 9.

Table 9

Background of Participants

Participant	Background
Administrator	AMI primary and elementary trained with 10 years of teaching experience and six years of administrative experience.
Samantha	AMI elementary trained. In her fourth year of teaching at the time of this study. Began working at the school the fall after she completed her training. Her class consisted of 28 lower elementary students, ages six to nine.
Pamela	AMI elementary trained. In her first year of teaching. Her lower elementary classroom consisted of 28 students ages six to nine.
Angela	AMI elementary trained. In her first year of teaching. Her upper elementary classroom of 27 students ranged in age from nine to twelve years old. At the time this study began, Angela had only been a lead elementary teacher for approximately one month.

Community of Practice

Because this intervention could not have taken place without a community of practice in place, this first section describes the process of the development of the community of practice, the challenges faced, and the resolution to move forward with the intervention. As discussed in chapter one, teacher evaluation within Montessori schools is carried out by administrators who assess a teachers' facilitation of normalization, yet in this context, there are varied definitions of this construct. To build consensus regarding normalization, this study implemented a pedagogical development program grounded in a community of practice wherein normalization was explored through the lens of teacher efficacy theory. The program created an environment wherein participants could freely explore normalization as a construct within Montessori theory and practice and then determine if it mapped to self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986), an existing construct within the scholarly literature.

The process of mapping normalization to self-regulated learning catalyzed deep examination of normalization in theory and in practice. This examination led to moments of discomfort and obstacles for the participants. In the end, however, the participants overcame those uncomfortable moments and obstacles, establishing a strong community of practice that not only reached consensus on normalization, but also mapped it to a scholarly construct with more than thirty years of evidence supporting it (Zimmerman & Pons, 1986). This section discusses the participants' experience of the mapping process and the establishment of the community of practice. The findings provided in this section are derived from the analysis of meeting transcripts and the researcher's field notes.

Establishment of a Community of Practice

As indicated in chapter 3, the three main elements that distinguish a community of practice from other types of learning communities and groups are: 1) members have a shared identity based upon a shared domain of interest and are committed to that domain; 2) members learn from one another by sharing information and engaging in activities and discussions despite not working together daily; and 3) members are practitioners who share resources for their shared practice (Wenger, 1998, 2011).

Qualitative analyses revealed that a community of practice was established amongst the Montessori teachers, administrators, and the researcher during the pedagogical development program. First, all members of the community of practice, including the researcher participant, share an identity based upon a shared domain of interest: they are all Montessorians, which refers to anyone who actively participates in the Montessori community (educators, administrators, parents, advocates). Second, the researcher shared information while engaging in activities and discussions with the other members with whom the researcher does not work on a daily basis. This information not only helped to change participants' perceptions of behaviors important to normalization, it also helped to change their perceptions of how to foster student normalization within their classrooms. (These perception changes will be discussed later in this chapter.)

Third, though the researcher participant is not a trained Montessori teacher, the researcher provided resources to aid the teachers' practice. Specific resources included:

1. Two definitions of self-regulated learning strategies (de Boer et al., 2013; Zimmerman & Pons, 1986);

2. Two articles describing how to foster self-regulated learning in the classroom (Bell & Pape, 2014; Briesch & Briesch, 2015);
3. One book describing self-regulated learning theory and strategies to foster same (this book was recommended, but not actually provided; Nilson, 2013)

Finally, when asked to express their overall feelings regarding the community of practice, participants stated that they felt the pedagogical development program was an extension of their school's existing community of practice, allowing them to more deeply examine a particular aspect of their pedagogy. As the Administrator stated:

> I think we've already had that [community of practice] built in…but I think we took a topic and went deeper with you, so maybe it's just a reminder of the importance of exploring these pieces of our pedagogy deeper…I think it made [normalization] more conscious for us.

Though the teachers feel it was an extension of their existing community of practice, as noted by the administrator, it was this community of practice that prompted the members to negotiate meaning and gain consensus regarding normalization – something that would not have occurred within their typical faculty meetings, which are typically dominated by logistics pertaining to the day-to-day functioning of the school.

Perception of the Mapping Process in the Community of Practice

During various parts of the mapping process, the Montessori trained participants were concerned they were being asked to change or contradict Association Montessori Internationale (AMI) pedagogy surrounding normalization. This became a major point of concern for participants deep into the mapping process during the seventh group session as participants again reviewed excerpts of Maria Montessori's writing (Montessori, 1946/2013, pp. 212-217; 1966, p. 148; 1967a, pp. 201-207). This review prompted

further discussion of normalization as a formation of the personality, concentration as the path to normalization (Lloyd, 2008; Montessori, 1967a), and ways in which teachers foster normalized student behaviors at the elementary level. This discussion revealed the concern that using the term normalization at the elementary level for the purposes of this study rather than merely verbally within their own school would mean they were officially contradicting the AMI pedagogy. Thus, the question became whether this community of practice could more formally claim that normalization maps to self-regulated learning if normalization is theoretically a transformation of the personality that only occurs within the first plane of development (ages birth to six). As the Administrator stated:

> I see similarities [between normalization and self-regulated learning], but …I just want more information before I make that correlation. There are some people who are adamant that [normalization] is just first plane who have been studying this for a lot longer…everything in my mind right now is just what I've observed…I just think none of us are comfortable going on record saying, "Yes, normalization happens in elementary," without doing our own exploration and research.

The Administrator's statements reflect the strong sense of culture, lineage, tradition, and group identity of AMI trained teachers (Cossentino, 2009; Whitescarver & Cossentino, 2008). Though the participants discuss fostering normalization at the elementary level and, as will be shown later, perceive normalization as a developmental process that continues into the elementary and beyond, there was concern that using the term normalization at the elementary level and then mapping normalization to self-regulated learning would be paramount to changing the AMI Montessori pedagogy. In fact, Angela expressed concern that this community of practice did not have the "authority" or "license" to use the term normalization at the elementary level for an official study,

despite using the term in practice. Ultimately, the AMI trained participants were concerned about contradicting those with more expertise and authority within the AMI community, which would also mean countering AMI's strong culture.

To resolve this issue, the participants chose to contact their trainers to obtain their views on normalization. At the following meeting (group session 8), however, the Administrator was the only participant who brought in written trainers' perspectives, as the other participants expressed feeling "too scared" to contact their own trainers, fearing they would "get upset" with such a question. The Administrator had emailed three trainers – two elementary trainers and one primary trainer – all of whom responded to the same email thread. However, the Administrator (who is trained in both primary and elementary) was not trained by any of these trainers. Qualitative analysis of the three AMI trainers' responses shows that, at least amongst trainers of different program levels (primary and elementary), there was variability in the conceptualizations regarding normalization (unfortunately, the actual data cannot be provided as two of the trainers would not agree to sign participant consent forms for this study). The trainers' lack of consensus further highlights the subjective nature of this construct. It also seemed to make the mapping process even more relevant to participants. The Administrator's comments below demonstrate the group's thinking regarding this relevance:

> I think as with all the [Montessori] community, we're all operating…we're all using these terms, but we aren't articulating exactly what we mean by th[em], and so it forced us to do that. You see that even in the responses we get from the different trainers. People don't sit around and have these conversations anymore, I don't think. I'm sure at one point they did, but now it's...it just trickles down from one person to the next, and then they have their own interpretation of it.

Seeing that trainers each had their own interpretation of normalization brought closure to the concern that this community of practice did not have the "authority" or "license" to claim normalization – despite being a first developmental plane phenomenon in theory – also occurs at the elementary level and maps to self-regulated learning theory. This closure gave participants permission to move forward with the mapping process, and further strengthened their community of practice.

Normalization as a Continuous Developmental Process

The first major theme to emerge from qualitative analyses shows that normalization is a continuous developmental process that goes beyond the first plane of development, which only spans from birth to age six. Evidence supporting this emergent theme is divided into two stages: 1) differing conceptualizations of normalization, and 2) theory-practice gap regarding normalization. The final conceptualization of normalization – stage three – is discussed under the second major theme: normalization in relation to self-regulation. The full continuum of the normalization conceptualizations are shown in Table 10.

Table 10

Continuum of Normalization Conceptualizations

Community of Practice		
Theme 1 – Normalization as a Continuous Developmental Process		Theme 2 – Normalization in Relation to Self-Regulation
Prior to mapping process	During mapping process	After mapping process
↓	↓	↓
Stage 1: Differing conceptualizations of normalization	Stage 2: Theory-practice gap regarding normalization	Stage 3: Consensual conceptualization of normalization

In theory, normalization is thought to be a transformative process that children experience through concentration on purposeful, hands-on activities (Lloyd, 2008; Montessori, 1967a). After engaging in deep concentration on purposeful work, the children's chaotic and undisciplined behaviors are replaced with a love for work, the ability to deeply concentrate for long periods, self-discipline, and high social competency. Because Montessori only refers to normalization in writings focused on children within the first plane of development (birth through age six), the normalization process is thought to only occur during this developmental period. In practice, however, Montessori teachers of varying program levels (toddler, primary, elementary) and administrators use normalization as a catch-all term to describe the set of behaviors Montessori identified in her writings (Epstein, 1989; Montessori, 1967a). As the Administrator stated during the first group session:

> …in our theory lectures, they don't say [normalization] at the elementary level. But somehow everybody walks away with the understanding that that's what you're trying to do. I've heard it outside of our school. I've heard it in many different places. People use the term. They don't know what else to say.

This data further highlights the need to explore the normalization construct, as how it is used in practice is more relevant to teacher evaluation than how it is used in theory.

Stage 1: Differing Conceptualizations of Normalization

During this stage of the program, participants focused on discussing their conceptualizations of normalization prior to mapping it to self-regulated learning theory (the mapping process).

Subjective interpretation. During the first group session, participants were asked, "What is normalization?" Analyses of responses to this question and all other data

obtained prior to the actual mapping process show that normalization is open to subjective interpretation. For instance, Samantha's view of normalization focused primarily on student concentration, whereas Angela viewed it as the students focusing on a specific topic – the latter of which is not mentioned in Maria Montessori's description of normalization (Montessori, 1967a). Pamela discussed normalization involving the children's ability to independently work and to seek help when necessary, what Montessori referred to as discipline and sociability respectively. However, the Administrator's comments below fully encapsulate this first main finding:

> It's a whole bunch of adjectives, right? Just all those things that you guys are talking about…Sometimes you have to wonder if it's kind of subjective, too, in the sense that what I might feel is normalized might be just what I'm comfortable with. A child could be busy at work and completely engaged in something and focused on learning but might be acting in a way that I would be uncomfortable with happening in the classroom. I don't know, sometimes I wonder how much that comes into play. What we might be comfortable with is silence.

Here, the Administrator points out that a teacher's personal preference, i.e., for silence, may underpin that teacher's subjective view of normalization.

Lending further support to the administrator's point and the subjective interpretation finding is Samantha's discussion during the third group session wherein she conveyed how spending more time observing her students due to having a student teacher in her classroom to give lessons enabled her to reassess some of their behaviors:

> … I'm noticing that, "Oh yeah, so this is when I think they're just chatting but, oh, actually they're figuring something out." Or, they're just taking a long time before they get to what they're going to do, but it was all in the process…

Samantha realized that behaviors she had been identifying as time-wasters – chatting, taking time to reach a goal – were actually important to the students' learning process.

This not only further supports the finding that normalization is open to subjective interpretation, but it also suggests that Samantha may have been more comfortable with silence and efficiency rather than chatting and taking time to reach a goal.

Further, silence and efficiency are generally behaviors of an orderly and controlled classroom, which teachers with a low sense of efficacy tend to prefer (Ashton & Webb, 1986). This preference is due to a lack of trust in students, which leads low efficacy teachers to engage in more controlling classroom management strategies rather than strategies that foster learning, including self-regulated learning (Perry et al., 2002; Woolfolk et al., 1990). From a teacher evaluation perspective, an administrator would need to either know Samantha's preferred classroom behaviors or her sense of efficacy level to gain further insight into her practice. Such information would indicate whether she is facilitating students' normalization or merely controlling students. Observing silent and seemingly efficient students is subjective and deceptive (Ho & Kane, 2013), thus observation alone may adversely affect the teacher evaluation process (Danielson, 2012).

Negotiation of meaning. To prepare for the mapping process, participants worked together to elaborate, clarify, and reach consensus on behaviors important to student normalization. For instance, as participants collaborated to negotiate the meaning of discipline during the third group session, discussion initially focused on behaviors such as following rules and etiquette, and the ability to control one's body and emotions. As a participant, the researcher identified students' cognitions and metacognitions as potential variables driving student behavior. At first, the participants were unsure about the meaning of these terms and Pamela wondered whether these cognitions and metacognitions were internally or externally driven: "But is that an internal thing that's

happening? Or is it coming from external forces…where are these cognitions coming from?"

The researcher explained that the children's own thoughts and their metacognitive knowledge, which refers to the students' thinking about their own thinking (Flavell, 1979), can determine the learning strategies they use (Bandura, 1986). It was also discussed how teachers can work with students to help them become aware of their cognitions and metacognitions. The Administrator agreed this type of teacher support "goes a lot with our practice." And Samantha stated, "I think that is our goal."

This data suggests that the teachers did not initially consider how the children's own thinking or their thinking about their own thinking might drive their behavior (Bandura, 1986; Flavell, 1979). The data also demonstrates how the mapping process and the program overall helped to broaden participants' perception of normalized behaviors to include cognitions and metacognitions as they negotiated meaning. These changes are reflected in their initial consensus list of discipline behaviors (Table 11) to which they added: 1) ability to regulate one's own cognitions, 2) self-awareness, 3) self-reflection, and 4) self-evaluation. Additionally, given the above discussion, it seems likely that the participants may not have included at least some of these items due to their confusion as to how metacognitions could influence discipline – a point of expertise the researcher was able to provide in this community of practice.

Further, discussion surrounding the meaning of work during the same group session provides another example of negotiating meaning given the participants' differing conceptualizations of normalization. During that discussion, it became clear that three of the five participants had differing views regarding the frustration that students may feel

while engaging in challenging work – work requiring effort beyond that of busywork (Zimmerman & Schunk, 1989). Samantha discussed finding the "sweet spot between something that is too easy and too challenging" so that students are inspired to persevere because they are not frustrated. Pamela also suggested that frustration should be avoided. However, the Administrator pointed out that many children can feel frustrated and still persevere. This discussion helped Pamela to reconsider her perspective:

> When I think about frustrated, I usually think about that being like it's over and they're done. But that's true…I feel frustration even though I work through things…it makes sense.

The outcome of this discussion was that participants listed perseverance through frustration under work as a normalized student behavior (Table 11). However, it is likely that Pamela and possibly even Samantha would not have listed this behavior if they had been asked to create their own individual lists without the community of practice group discussion. Additionally, Pamela and Samantha's new understanding of frustration likely increased their sense of efficacy, as teachers with high-efficacy beliefs are more likely to view seemingly negative behaviors such as frustration as a part of the learning process that students can get through rather than behaviors to be avoided (Ashton & Webb, 1986). Thus, by providing opportunities to negotiate meaning and engage in verbal persuasion experiences (Bandura, 1977), the mapping process changed participants' perceptions of behaviors important to normalization and likely, their sense of efficacy regarding normalization.

Confusing normalization with other behaviors and utilizing observation. Further qualitative analyses also showed that the subjective nature of normalization can lead to teachers confusing normalization with other behaviors. For instance, one can

easily confuse quiet behavior with true concentration and engagement. As the Administrator stated during the first group session, "That's where you can easily misperceive it, thinking that the child is fully engaged or concentrating just because they're quiet." Confusing quiet behavior with true engagement can mean that some students are, as the Administrator went on to say, "flying under the radar" – something which Pamela, a first year teacher, admitted to experiencing in her own classroom during the first group session.

Children who are "flying under the radar" are not engaging in challenging work, a self-regulated learning behavior necessary for academic achievement (Hattie, 2009; Zimmerman, 1990b). Engagement in challenging work is also a behavior participants identified as important to normalization. But even the Administrator, a veteran teacher with ten years classroom teaching experience, can find it difficult to distinguish "playing it safe" behaviors from engagement with challenging work:

> …I noticed this fall as well, some children who were working on long multiplication, and they were doing it on paper, and they would do pages and pages of it. At first I thought, okay, well, maybe they're just wanting to perfect it, or they just learned it and they're feeling really excited and comfortable with that. Then, as a few weeks went by and they were introduced to all these other new concepts that they weren't even thinking about them or weren't taking out…then I started to wonder is it because they are just more comfortable with doing something where they can work on a paper and chat with friends, and it appears as if they're busy? Or if they're really essentially trying to avoid some of these concepts that might be a bit tougher?

While the Administrator wanted to give students enough time to master new skills, she remained vigilant to the possibility that they might be using that work to avoid the more challenging, newer concepts. This required observing the students' behaviors over several weeks so she could identify a behavioral pattern and determine the students' motives for

not working with the newer math lessons. Spending time observing students is, hence, key to not confusing normalization with other behaviors and determining whether students are, in fact, engaging in challenging work. Observation is also key to ensuring that teachers' are not misinterpreting students' normalized behaviors as time-wasters, as Samantha had done.

Work, concentration, discipline, and sociability. To gain consensus regarding student behaviors important to normalization so they could attempt to map it to self-regulated learning, participants chose to operationalize the normalized behaviors Montessori identified: work, concentration, discipline, and sociability (Montessori, 1967a). This process occurred primarily during the third group session, but was refined after the mapping process. The result of that discussion is the initial group conceptualization of normalization shown in Table 11.

Table 11

Normalization: Stage 1 Group Conceptualization

WORK	CONCENTRATION	DISCIPLINE	SOCIABILITY
Students show: interest engagement desire to challenge oneself – not just engage in busy work or good behavior consistent effort perseverance through frustration problem-solving abilities feeling capable of independent work helping one another sharing information or thoughts – desire to share knowledge	Students show: ability to concentrate and not distracted by surroundings due to deep engagement engagement in: - discussion - collaboration, but focused on a topic; concentration is not necessarily "quiet" variation in time engaged in concentration	Students show: ability to regulate one's own: - emotions - impulses - cognitions ability to regulate self in variety of situations, including: - socially - physically - when handling objects / materials the following behaviors required for self-regulation: - self-evaluation - self-reflection - self-awareness - awareness of social norms and etiquette	Students show: emotional intelligence – ability to read others empathy quiet listening active listening being present ability to articulate own feelings cooperation with others

Stage 1 conclusions. Normalization was initially conceptualized as being open to subjective interpretation where a teacher's preference for certain behaviors can determine what normalization looks like in students according to that teacher. This personal

preference, in turn, influences that teacher's sense of efficacy, because if a teacher believes a student is not normalized or is engaging in non-normalized behaviors, they may be more likely to utilize controlling and custodial instructional strategies (Ashton & Webb, 1986). This finding highlights the need for teachers and administrators to negotiate the meaning of normalization to arrive at a consensual conceptualization of it. A consensual conceptualization would likely increase teacher efficacy beliefs, strengthen the validity and reliability of the teacher evaluation process, and empower administrators to provide more effective support in developing teacher efficacy beliefs (Danielson, 2012).

Additionally, the subjective nature of normalization also shows how teachers are susceptible to confusing normalization with other behaviors (i.e., confusing good behavior with true engagement). Observing student engagement over a period of time is important to mitigating this confusion.

Finally, negotiating the meaning of work, concentration, discipline, and sociability – the terms Montessori used to describe normalization (Montessori, 1967a) – led to an initial consensual conceptualization as shown in Table 11. Looking at this table, however, it is interesting to note the number of high-level skills the participants expect normalized children to have, particularly since, in theory, the normalization process is thought to occur only within the first six years of life. The implications of this specific issue are discussed in chapter six.

Stage 2: Theory-Practice Gap Regarding Normalization

During this stage of the program, participants began mapping normalization to self-regulated learning, which led to the following findings: 1) in theory, normalization

occurs during a critical period of development, 2) in practice, normalization, which is thought to be a transformation of the personality, occurs over the elementary years, 3) there is variability in normalized behaviors across contexts, 4) strategies used for normalization are used with elementary students and even adults, not just children within the assumed critical period of development, and 5) schools are left with the task of mitigating the theory-practice gap regarding normalization.

Critical period for normalization. After participants reached initial consensus on normalization (Table 11), self-regulated learning theory and strategies as described by Zimmerman and Pons (1986) and de Boer et al. (2013), were introduced in the fourth group session. Participants then began discussing the self-regulated learning strategies and comparing them to strategies they use within their own classrooms to foster normalized student behaviors. While the participants saw many parallels between their strategies for normalization and those in self-regulated learning, the concern that normalization only occurs within the first plane of development (birth through age six) was a continuing concern, as discussed earlier. Specifically, could participants claim that normalization did in fact map to self-regulated learning theory if normalization in theory is only a first plane phenomenon? As Angela explains:

> My memory about hearing about normalization is that it is a primary thing…that the extension of it in the elementary class is concentrated work, is great work. It's that gregarious instinct when the children are feeding off of each other for one interest, and come together for work in the classroom. That's how you know you're seeing what is normalization in the primary classroom – in the elementary class it's that focused work…When you see the children doing great work, you see normalization. We're not saying this is normalization, we're saying this is great work – this is a tendency of the second plane child.

Angela's point that normalization "is a primary thing" suggests it occurs during a critical period of development, when children have what Montessori termed the absorbent mind (Montessori, 1967a). The absorbent mind refers to the children's unconscious absorption of "every aspect of their environment, language and culture" (Montessori National Curriculum, 2012b, p. 85). Once a child enters elementary, however, "the mind loses the ability to absorb the environment unconsciously," and children begin to use reason and logic (Montessori National Curriculum, 2012b, p. 85). Using their greater intellectual prowess, the children produce great work: in-depth, independent exploration that is purposeful, meticulous, and carried through until the child's curiosity is satiated or her questions are fully answered. Thus, great work is work in which a normalized student engages (Montessori National Curriculum, 2012b).

Discussions surrounding the concern that normalization is only a first plane phenomenon led to the finding of the theory-practice gap theme of normalization, which is supported by the data and findings below. Overall, discussing the self-regulated learning strategies and normalization with the view of mapping the two provided opportunities for participants to delve even deeper into their conceptualizations of normalization, which continued to evolve past the first stage discussed in the previous section.

Transformation of the personality over elementary years. In training, elementary teachers learn that a normalized student is one who has undergone a transformation of the personality wherein challenging behaviors that disrupt learning are replaced with concentration, a love of work, discipline, and refined sociability (Lloyd, 2008; Montessori, 1967a). In practice, however, teachers experience children older than

age six normalizing. Thus, there is a gap between theory and practice with respect to normalization.

Samantha's experience working with students who had not previously attended a Montessori primary program points to this gap. In her experience, elementary aged students can also undergo a transformation of the personality by adopting normalized behaviors:

> I find that, especially at a six year-old age level, it doesn't make that much difference to you whether they have Montessori training or not…Now, if we took in some older children, that would not be so difficult either because they would see what's around them. I have a child this year who is completely new to school. He's eight, and even he, by now, is already choosing to work independently and is very self-directed.

If normalization only occurred within the first developmental plane, Samantha would not see elementary students who had never previously attended a Montessori program normalizing. Montessori philosophy assumes that children in non-Montessori learning environments are not provided with the fully prepared environment that allows them to normalize (Montessori, 1967a).

The Administrator also expressed doubt that Montessori children experience a transformation of the personality at the first developmental plane:

> …how can we say that someone is forever normalized when they are constantly evolving and developing? There's no possible way…whether a child is completely normalized in a primary…there's this transitional period, so going into any new environment and getting acclimated to that environment. Then, everything that's going on internally for them. Also, externally in whatever that is also happening in their family life. No one's always going to be like a machine…even though that might be at the core of them, whatever external and internal factors are taking place at the time, it's not always going to be visible, I guess.

Here, the Administrator points out that students continue to evolve and develop beyond age six and have internal and external experiences that continue to affect their

development and growth. She also points to the transitional period that students experience as they settle into their new elementary classrooms after leaving their primary programs. If students truly experienced a transformation of the personality during the first developmental plane, internal and external factors, including transitioning to the elementary program, would not affect students' demonstration of normalized behaviors. Instead, a student who was transformed and thus normalized would be, as Pamela stated, "a perfect child…a perfect human being" unaffected by such variables.

Variability in normalization behaviors across contexts. In theory, once a child's personality is transformed and normalized, the newly adopted behaviors of a love of work, concentration, discipline, and sociability are "universal and remain stable across time and culture" (Lloyd, 2008, p. 66). However, analyses revealed that context is an important variable influencing whether students demonstrate normalized behaviors. As Samantha discussed during the second group session:

> Context is very important to [the children]. They just respond so well to boundaries and expectations and rules that are in place, in general. I think sometimes when rules are unclear, or when the situation changes in any way…[for instance,] they know aftercare is different than school. They know expectations must be different, or they might think that. The new expectations have to be laid out for them. I think in every situation, it's something different to them. Sometimes they aren't able to apply what they know in another context, or easily, without some guidance.

Samantha points out that children can display normalized behaviors during class, but not necessarily during aftercare. She suggests this is likely due to the aftercare teachers (who are not Montessori trained) having different expectations of the students than the Montessori teachers.

Pamela agreed that the adults' expectations are the reason context appears to influence student normalization:

> I think what I've experienced is that if there isn't that expectation in other environments…people are more ready to expect less from a child, and therefore that child acquiesces to whatever expectation. They will lower their performance or their effort based on the expectation of the adult in the environment, even though they have the skills. If what we expect of them in the classroom or what was expected of them in the casa [primary program, ages three-six] – if that were also expected at home – that could easily translate. But I think the reason it doesn't always is because it's not backed up in every other environment. The expectations aren't the same from parents and guides, different guides, assistants. Not everybody has the same expectations.

Both Pamela and Samantha note that students' contexts both in school and at home include adults, and those adults' have expectations that influence the children's behavior. Further, when the adults' expectations of the students across contexts – classroom, aftercare, home – do not align, the children will not consistently demonstrate normalized behaviors. Thus, normalized behaviors are not "universal" and do not "remain stable across time and culture" (Lloyd, 2008, p. 66).

The question, however, is whether normalized behaviors would be more consistent across contexts if all the adults in a child's life had similar boundaries, rules, and expectations regarding participation in the classroom and home, as well as respect for the child's need to concentrate on hands-on activities – whatever those activities may be. As Angela suggested:

> Maybe in each personality trait [work, concentration, discipline, and sociability] you have to reinforce and support the presentation of it. If you've got expectations in one setting and those same expectations in another setting, then the behavior[al] expression of normalization will be reinforced. But as that maybe changes, it's no longer available to them to support the reinforcement to continue the practice of it, then it will dissipate…

Yet even if normalized behaviors were more consistent due to the consistency of the adults' expectations across all of the child's environments as Angela suggested, this still

would not demonstrate an overall transformation of the personality. Rather, it would demonstrate how context influences whether normalized behaviors are expressed.

This finding, however, does not diminish the validity of Montessori pedagogy. In fact, one could argue that it actually supports it. Dr. Montessori realized that context affects students' development and engagement with learning and, thus, recommended that children learn in environments carefully prepared by adults who expect that children want to learn and can learn independent of the teacher (Montessori, 1967a). The self-regulated learning research indirectly supports her recommendation as it delineates classroom environments that do and do not foster self-regulated learning. In high self-regulated learning classrooms, teachers act more as guides rather managers of students' learning. These teachers design open-ended instruction, offer choices, and allow students to direct their own learning process, and evaluate their own work (Boekaerts, 2002; Kistner et al., 2010; Perry, 1998; Perry et al., 2002). Additionally, teachers who are able to relinquish this level of control over to their students have a high sense of teacher efficacy. They expect that students can learn to effectively direct their own learning, and they act to support their students in learning the same (Ashton & Webb, 1986). However, if Montessori teachers believe that normalization only occurs during the first plane of development, these teachers will likely not act to support the development of self-regulated behaviors or normalization.

Strategies for fostering normalization. As the participants discussed the gap between theory and practice surrounding normalization, they considered the reason this gap exists. At one point, Pamela suggested that it may be due to semantics: the term normalization is tied to the term absorbent mind, a characteristic specific to children at

the first developmental plane (Montessori, 1967a). As she stated during the seventh group session:

> …the way that you reach [normalization during the first developmental plane] is very different from the way that you reach work, discipline, concentration, and sociability with an elementary child. Normalization is because of that particular mindset of the primary child [the absorbent mind]…when I think about normalization, it makes sense to talk about it in terms of work, discipline, concentration, and sociability, but what I think makes it distinct is the fact that the specific child who has a different way of operating. It's more about the avenue of reaching them. It's not all about how they're manifesting these behaviors. It's more about…their process is different.

Essentially, because elementary (second plane) children have reasoning minds and not absorbent minds (Montessori National Curricululm, 2012b), the term normalization is not used with these older students. With the absorbent mind, the process of normalization – the "normalizing agent" (Lloyd, 2008, p. 65) – is concentration, but elementary children have reasoning minds, thus their normalizing agent differs from that of first developmental plane children. This is a reasonable theory that may explain why there is a gap between theory and practice with respect to normalization.

However, during this same conversation, Pamela also stated that she utilizes concentration as a way to foster normalization with her elementary students:

> …I invite children to do something for the environment that might take a long time...that requires concentration, like potting a plant. I do think once they finish that work and have concentrated and completed the task, there's this level of confidence that makes them want to do more work that involves the whole process.

The reason Pamela utilizes concentration to foster normalization with elementary students is because her Montessori elementary teacher trainer used a similar concentration strategy to help the teacher trainees refocus their attention back to their own work:

> …something that happened in my training…[the trainer] would redirect us in the way that she redirected the children. At first, we were like, "What? – a little horrified. It was a hard reset to sing a song and refocus and go back to our practicals or those kinds of things. I feel like throughout the whole year she did things like that, whether it was that particular example or many others.

According to Pamela, as the teacher trainees lost focus with their work, the trainer would have them sing a song to "reset" their attention so they could go back to concentrating on their work. Essentially, the trainer used concentration to foster more concentration. This suggests that the trainer was, as the Administrator pointed out, "normalizing" the teacher trainees through a normalizing agent (concentration) thought to be reserved only for first developmental plane children. Perhaps this particular trainer, like the participants in this study, did not view normalization as occurring only within a critical period of development, but instead viewed it as an ongoing developmental process that continues into the elementary into adulthood. Logically speaking, if a trainer used a strategy to help refocus adult learning, then in practice she was demonstrating the belief that adults also require some facilitation of normalization.

Mitigation of the theory-practice gap. The theory-practice gap surrounding normalization leaves schools the task of mitigating it, as this gap can have negative implications for the teacher, the school, and ultimately, the students. Samantha's experience as a first year teacher four years prior to this study illustrates some of these potential implications:

> I didn't feel prepared. I think was idealistic about how things would be. Maybe I heard what I wanted to hear in the training. I hear that from a lot of people that the reality was so different than what we heard about…I thought I'd be giving a lesson and that they'd be dying to work on it. That would be it.

The theory-practice gap left Samantha questioning herself as she adjusted to the realities of her first year of practice. For any new teacher, adjusting to the realities is necessary, and can occur in a variety of ways. They can either adjust by having a high sense of efficacy – believing their students can learn, the educational system works, and they can teach any student – or they can adopt a low sense of efficacy and believe many students cannot learn, the educational system does not work, and as teachers, there is not much they can do to change the system nor the students (Ashton & Webb, 1986). For Samantha, the path to adjustment seems to have gone the latter route, adopting a low sense of efficacy. In her individual interview she stated:

> I really had a lot of doubts about [the pedagogy] in the first few years. I thought, "This doesn't work. They need a lot more structure"; but I think with the right teacher, it can be amazing…I think it can work, but I think there are very few people who can pull it off successfully. I really do. I still wonder whether I'm able to.

Even four years later the struggle to believe in herself and the pedagogy is still there, indicating a persistent sense of low personal and general teaching efficacy (Ashton & Webb, 1986).

It was surprising to hear Samantha's doubts about herself and the pedagogy. When observing her classroom prior to her individual interview, she appeared both confident and competent, and her students exhibited normalized behaviors. But Samantha also appears to have extraordinarily high expectations of herself, so even though she is aware of this gap between theory and practice regarding normalization, she still seems to hold herself to the ideal presented in training. For any administrator responsible for evaluating Samantha, it would be useful to know this about her so the administrator could

provide support to increase her sense of teaching efficacy through a combination of vicarious and verbal persuasion experiences and emotional support (Bandura, 1977).

The Administrator in this study was aware of Samantha's first year teaching struggles. Thus, to mitigate the theory-practice gap, she deliberately sought to lower expectations of teachers hired after Samantha. As the Administrator stated in her individual interview:

> I think the only reason Angela and Pamela didn't expect [perfectly normalized children] is because I harped on that in interviews…It's doing all that work on the front end…lowering, lowering, lowering their expectations, like actively lowering them.

While the Administrator tries to intentionally lower the expectations new teachers may have of the children's behaviors due to their training, it is unclear whether or not she is aware that Samantha's sense of efficacy, four years later, is still low, and if anything is currently being done to increase it.

Overall, it would be useful for school administrators to know that the gap between theory and practice can adversely affect their teachers' efficacy beliefs so they can implement supports to mitigate this issue when new teachers are hired. Even more ideally, it would be useful for AMI trainers to recognize this gap so they can reexamine how the training contributes to it.

Stage 2 conclusions. Overall, the data from this stage provide five findings: 1) normalization is a developmental process that does not only occur within the first plane or a critical period of development, 2) normalization is not a transformation of the personality because teachers experience children older than age six normalizing and children continue to evolve and develop, 3) context and adult expectations influence the expression of normalized behaviors, 4) concentration can be used as "the normalizing

agent" for children beyond the first developmental plane and even adults (Lloyd, 2008, p. 65), and 5) the gap between normalization theory and practice puts schools in the position of mitigating this gap, which can adversely affect new teachers' sense of efficacy (Ashton & Webb, 1986).

Normalization in Relation to Self-Regulation

This section provides the final conceptualization of normalization arrived at after participants completed the community of practice mapping (stage 3). The final self-regulated learning-normalization map, as shown in Figure 2, is also delineated. Data for this section are pulled from the group and individual community of practice meetings transcripts and group session notes.

Stage 3: Final Conceptualization of Normalization

After discussing the self-regulated learning strategies described by Zimmerman and Pons (1986) and de Boer et al. (2013), participants opted to use de Boer et al.'s (2013) list for their final mapping. They felt this list included Zimmerman and Pon's (1986) strategies, yet it was even more comprehensive. After mapping Boer et al.'s (2013) strategies to normalization, the participants arrived at their final consensual conceptualization of it. Changes from the initial to the final conceptualization included the addition of general metacognitive knowledge and three self-regulated learning strategies not previously considered: 1) organization, 2) elaboration, and 3) planning and prediction. Other changes included the addition of self-efficacy and goal orientation under the normalized behavior of discipline, though the participants had initially mapped these to work. General metacognitive knowledge and these five self-regulated learning strategies are defined in Table 12, which also shows the normalization category and

specific behaviors to which the self-regulated learning knowledge and strategies were mapped. These strategies are also noted in italics in Table 13, which shows the participants' final conceptualization of normalization.

Table 12

Self-regulated Learning Strategies Added to Final Conceptualization of Normalization

SRL Knowledge/ Strategy	Definition	Normalization Category
General metacognitive knowledge	Knowledge of learning and cognition (de Boer et al., 2013, p. 26).	Discipline
Elaboration	Actively making connections between new and already existing material and structuring this information in order to facilitate storage of this knowledge in long-term memory (de Boer et al., 2013, p. 26).	Work
Organization	Reducing the information to the relevant issues to enhance one's comprehension (de Boer et al., 2013, p. 26).	Work
Planning and prediction	An explicit focus on planning and the use of time, based on which students have to determine how they are going to perform and what they will need to perform well (de Boer et al., 2013, p. 26).	Discipline Concentration
Self-efficacy	Belief of a student in his or her ability to successfully complete a task. Includes judgments about one's ability to accomplish a task as well as one's confidence in one's skills to perform the task (de Boer et al., 2013, p. 27)	Discipline (initially mapped to "feeling capable of independent work" under work)
Goal-orientation	Degree to which the student perceives him/herself to be participating in a task for reasons such as seeking a challenge, curiosity, wanting to master a skill (intrinsic), obtaining high grades, getting rewards, achieving a good performance and/or evaluation of others, and competition (extrinsic) (de Boer et al.,	Discipline (initially mapped to "desire to challenge oneself" under

2013, p. 27). work)

SRL knowledge and strategies not initially considered. Participants did not explicitly discuss why general cognitive knowledge, elaboration, organization, and planning and prediction, or even similar knowledge and behaviors, were not part of their initial consensual conceptualization of normalization (see Table 11). However, once these behaviors were introduced, none were ever discussed as *not* being a normalized behavior even though participants were consistently reminded that the point of the study was to explore *if* self-regulated learning strategies mapped to normalization, not to ensure that they *did* map. Possible reasons for not including these behaviors in their initial conceptualizations are discussed below.

General metacognitive knowledge. Normalization is a phenomenon that prepares children to be societal citizens, not just good academic learners (Haines, Baker, & Kahn, 2000; Montessori, 1967a). It is also, in theory, a phenomenon that contributes to the formation of the personality (Montessori, 1967a). General metacognitive knowledge in self-regulated learning theory, however, only concerns one's knowledge of learning (de Boer et al., 2013), and normalization goes beyond academic learning. However, once introduced to this construct, participants mapped it to discipline because this category included behaviors related to student cognitions.

Elaboration. As discussed in chapter one, the goal of the Montessori elementary Cosmic Education curriculum is to facilitate a systems worldview for students rather than content mastery (Montessori National Curricululm, 2012b). This goal may explain why participants did not consider elaboration or a similar behavior in their initial conceptualization of normalization. Elaboration involves connecting new material to

existing material so it can be stored into long-term memory (de Boer et al., 2013). But because content mastery is not the main focus of the Montessori curriculum, this behavior would not be at the forefront of the participants' minds. Yet, after this strategy was introduced to participants, they thought it to be a normalized behavior and, thus, mapped it to normalization under work as it relates to student work.

Organization. Participants may not have considered organization in their initial conceptualization of normalization because Montessori teachers do not view their role as transferring content to students that must be tested (Montessori, 2013). Organization as a self-regulated learning strategy involves determining key issues of content to enhance understanding (de Boer et al., 2013). This is an important skill in educational settings where comprehension is consistently tested and where grades determine achievement (Zimmerman, 1990b). In Montessori environments, while content and comprehension is important, student interest is even more important as it is thought to foster a love of learning and to drive students towards comprehension and mastery (Lillard, 2007). Additionally, as discussed above, the overarching goal of the Montessori elementary cosmic education curriculum is to facilitate a systems worldview and to help students understand their individual roles and places within those systems; this goal also takes precedence over content mastery (Montessori National Curricululm, 2012b). However, while this strategy was not at the forefront of their minds as they initially conceptualized normalization, once introduced to it, participants did not question whether or not it was a normalized behavior, and agreed as a group that it mapped to the work category under normalization.

Planning and prediction. According to self-regulated learning theory, planning and prediction involves explicitly planning the best use of one's time to achieve one's goals (de Boer et al., 2013). When asked whether normalized children engage in this behavior independent of the teacher, the responses suggested participants were thinking of this self-regulated learning strategy as a more explicit behavior. For instance, Samantha stated, "Yeah. I wonder. Some of them do. They might not write it down, but they might just be thinking it."

Adding to Samantha's comment, Angela also echoed the implicit planning of a normalized child:

> I was going to say something to that effect. I think I see it more often that it isn't a date or a time set out or really explicit. It's that they know they're going to finish it. If they pick up this writing project once last week and then they don't for a while, they come back to it, and they keep working on it…they know they're going to see this to an end. It has an end. They're working for that. It doesn't always have to be this set thing either. Those that are finishing their work are picking it up whenever, pacing their goal.

Both Samantha and Angela point to the implicit planning and prediction of Montessori students. While students may not write down or even explicitly determine a date to complete a project, they will continue to work on it at their own pace to the point of completion despite not having teacher-imposed deadlines. This may explain why this strategy did not appear in their initial conceptualization of normalization. There was no question, however, as to whether or not it should map to normalization. Ultimately, they determined this strategy mapped to both discipline and concentration under normalization, thinking this strategy required both.

It should be noted, however, that Montessori elementary teachers do expect and want students to follow-through on their work; they just want students do it without

teacher-imposed timelines. To Montessori teachers, the teacher's role is, as Samantha stated in her individual interview, to "inspire them to follow-up."

Self-efficacy and goal orientation. Initially, participants mapped self-efficacy to "feeling capable of independent work" under work in their first consensual conceptualization of normalization. Similarly, goal orientation was also mapped under work to "desire to challenge oneself." The reasons for the initial mappings seem apparent. Self-efficacy refers to one's beliefs about one's ability to complete a task (de Boer et al., 2013), and "feeling capable of independent work" refers to one's beliefs about one's ability to work independently. Goal orientation refers to focusing on learning to achieve a goal (de Boer et al., 2013), and "desire to challenge oneself" refers to focusing on work that is challenging rather than merely busywork, which suggests it is higher-goal oriented. But as the mapping process continued, participants determined these self-regulated learning strategies should also be listed under discipline, though they did not state a specific reason. However, the reason may likely be due to the other behaviors listed under discipline, which focus primarily on what is happening internally for students. For instance, when discussing goal orientation, Samantha pointed out how it involves "wanting to master a skill," which refers to a student's internal motivation (de Boer et al., 2013), and suggested it go under discipline. Pamela immediately agreed saying, "Seems good," and none of the other participants objected.

The self-regulated learning-normalization map. One of the complexities in mapping self-regulated learning and normalization is that their categories do not neatly align (see Figure 2 for the final map). Self-regulated learning includes the main categories of "knowledge" and "strategies," which are further broken down into

metacognitive knowledge and the following *strategies*: cognitive, metacognitive, management, and motivation (de Boer et al., 2013). These categories are clear in that they distinguish student knowledge from behaviors students can employ to regulate their learning. They also show the complex interplay of student knowledge, behaviors, and motivation. Finally, these categories are also somewhat hierarchical. Metacognitive knowledge, for instance, is a prerequisite for students to engage in learning independent of a teacher. Lack of such knowledge leaves students confused as to when and why they should use any particular learning strategy (de Boer et al., 2013; Flavell, 1979).

Normalization's categories – work, concentration, discipline, and sociability (Montessori, 1967a) – are, on the other hand, nebulous. The categories do not distinguish between students' knowledge and behaviors. Nor do they distinguish between the different types of behaviors that children may demonstrate. For instance, the participants mapped the management strategies self-regulated learning identifies – management of self, management of the environment, and management of others (de Boer et al., 2013) – to discipline, concentration, and sociability respectively. This mapping demonstrates the potential overlap of these normalization categories.

Additionally, many of the self-regulated learning strategies map to more than one normalization category. For instance, management of others (de Boer et al., 2013) mapped to both work and sociability. As Samantha explained:

> …work can inspire [students] to help one another and share the information and thoughts. It can also be another experience that inspires them to [share], and they use it with their work. It could be either.

Here, Samantha shows the interrelatedness of work and sociability and management of others, which includes students learning collaboratively (de Boer et al., 2013). The work

itself can inspire students to share information with other students. Alternatively, an experience they want to share can also inspire students to collaborate on a project.

Finally, it is interesting to note that participants mapped work behaviors most frequently for a total of nine self-regulated learning strategies. Discipline, with a total of eight self-regulated learning strategies, was the next most frequent normalization category to map. Concentration, however, only mapped to two self-regulated learning strategies, and sociability only mapped to one. This mapping pattern is likely due to self-regulated learning theory's focus on academic achievement, which relates to student work and the need for students to have discipline to complete that work (de Boer et al., 2013; Zimmerman, 1990b; Zimmerman & Pons, 1986).

Self-regulated learning as a framework for the learning process. Montessori teachers often focus on getting students to become self-starters, forgetting that students who are working may not actually be challenging themselves (Hattie, 2009). Mapping normalization to self-regulated learning, however, helped participants to organize their thinking surrounding normalization and how to foster it for each student so that all aspects of the learning process, rather than just the starting phase, are considered. The Administrator's remarks in the last group session demonstrate this finding:

> I think [the self-regulated learning framework] is nice . . . we spend too much time trying to get them to be self-starters, but sometimes so much energy goes into that, when you have the children who are self starters, they still need to elevate their work and their performance to a whole new level, and I think really focusing on that self reflection piece with them is nice. Just so that we're constantly meeting the needs of all of them and constantly raising the bar for them . . . and I think in a Montessori environment, [the self-starters] are the ones who are most likely to fall through the cracks because…they're well behaved, and because we focus so much on getting them to be self directed, and if a child isn't self directed, it's just so obvious that all your energy goes to getting them to be

> in order to get the whole culture of the class normalized. I just think they get the least amount of attention.

According to the Administrator, the self-regulated learning framework helped participants to keep all phases of student learning in mind so they can support students who can initiate work and appear self-regulated in their learning but who may require guidance in later learning phases. Overall, the self-regulated learning framework, coupled with classroom observations, as discussed earlier, may help teachers to more accurately assess student behaviors so they do not confuse normalization with other behaviors. Thus, teachers can better support engagement in challenging work that helps students to intellectually grow and achieve (Zimmerman, 1990b).

Beyond self-regulated learning. Finally, it should be noted, that while participants did find that normalization (Montessori, 1967a) mapped to self-regulated learning theory (de Boer et al., 2013; Zimmerman & Pons, 1986), participants also discussed how normalization captures more than the self-regulated learning construct. For instance, participants viewed planning and prediction not just in terms of academic learning, but also in terms of social learning. As Pamela stated:

> …planning and prediction…it's like when we practice grace and courtesy lessons or imagine what it would be like to be in a certain situation and practice a certain skill.

Grace and courtesy is a part of the Montessori curriculum that provides explicit social behavior instruction (Lillard, 2007). For primary children (ages three to six) grace and courtesy lessons tend to focus on navigating the classroom in a way that demonstrates care and respect for the entire class community. For instance, children are shown how to push in their chairs when leaving a table so other children do not trip over them. They are shown how to politely make requests of one another, and how to serve food to the other

children. For elementary students, the lessons are more socially complex. Students may be asked to role play various social situations that are currently occurring within the classroom, so they can determine the most effective ways to handle such situations. To Pamela and the other participants, these lessons help students plan and predict in advance how to effectively manage the social aspects of their classroom community. Thus, planning and prediction in a Montessori context is more than just planning and prediction of academic learning.

Samantha's statement also demonstrates the finding that normalization goes beyond self-regulated learning:

> We're always talking about preparing [students] for the world and being contributing citizens, and being grateful for the people who came before, and stuff like that. So that is about these other things – the social-emotional. I think that is something we focus on because we look at the whole child.

While self-regulated learning captures a large part of normalization as defined by this study's participants, it does not discuss how to guide students towards becoming contributing societal citizens or to be grateful for the contributions of past citizens. Responding to Samantha's remarks, the Administrator suggested that, "Whoever is coming up with self-regulated learning needs to think bigger." Perhaps self-regulated learning researchers could benefit from understanding more about normalization to broaden their construct and include other behaviors that might influence how students view themselves as self-regulated learners. After all, while it is important that individuals can be self-regulated in their learning, society as a whole can benefit when those individuals also view themselves as part of a larger societal system to which they can contribute (Hofman, 2015).

Stage 3 conclusions. The final conceptualization of normalization included general metacognitive knowledge and three self-regulated learning strategies not previously considered: 1) organization, 2) elaboration, and 3) planning and prediction. It also included self-efficacy and goal orientation under the normalized behavior of *discipline*, though the participants had initially mapped these self-regulated learning strategies to behaviors listed under *work* in normalization.

Another conclusion drawn from this final stage includes the finding that participants think the self-regulated learning framework helped them to organize their thoughts around normalization and the student learning process. Specifically, it helped organize their thinking about how to foster normalization for each student so that all aspects of the learning process, rather than just the starting phase, are considered.

Finally, while participants did find that normalization (Montessori, 1967a) mapped to self-regulated learning theory (de Boer et al., 2013; Zimmerman & Pons, 1986), they also felt that normalization captures more of the whole child than the self-regulated learning construct.

Table 13

Normalization: Stage 3 Final Group Conceptualization

WORK	CONCENTRATION	DISCIPLINE	SOCIABILITY
Students show: interest engagement desire to challenge oneself – not just engage in busy work or good behavior consistent effort perseverance through frustration problem-solving abilities feeling capable of independent work helping one another sharing information or thoughts – desire to share knowledge *organizing and transforming information* *elaboration*	Students show: ability to concentrate and be not distracted by surroundings due to deep engagement engagement in: - discussion - collaboration, but are still focused on a topic; concentration is not necessarily "quiet" variation in time engaged in concentration *planning and prediction*	Students show: ability to regulate one's own: - emotions - impulses - cognitions ability to regulate self in variety of situations, including: - socially - physically - when handling objects / materials the following behaviors required for self-regulation: - self-evaluation - self-reflection - self-awareness - awareness of social norms and etiquette *general metacognitive knowledge* *planning and prediction* *self-efficacy* *goal orientation*	Students show: emotional intelligence – ability to read others empathy quiet listening active listening being present ability to articulate own feelings cooperation with others

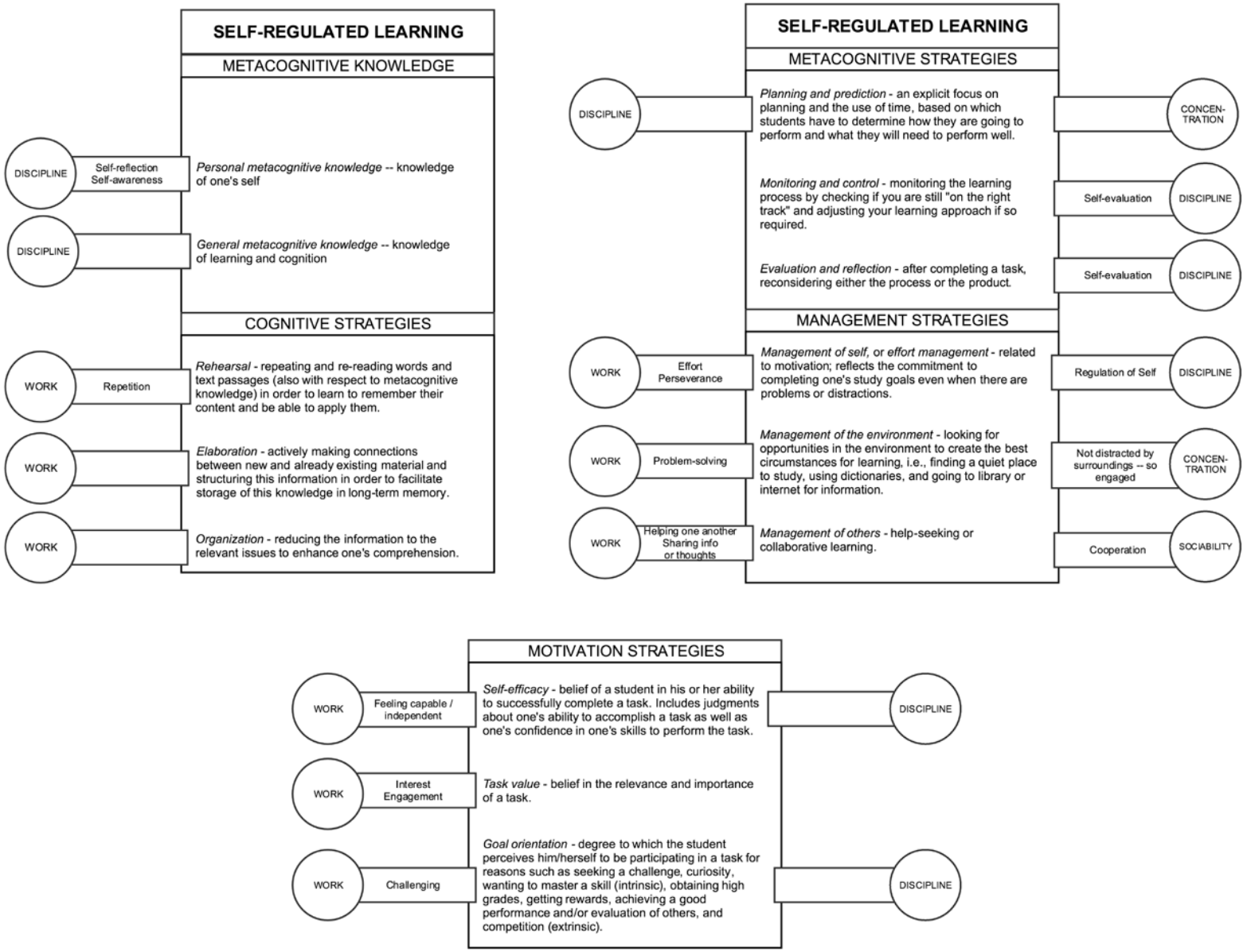

Figure 4. Final map of normalization (Montessori, 1967a) and self-regulated learning (de Boer, Donker-Bergstra, Kostons, Korpershoek, & van der Werf, 2013)

Changes in Teachers' Efficacy Beliefs and Behaviors

Teacher efficacy beliefs were explored in this study because research shows these beliefs drive teachers' classroom behaviors with students (Ashton & Webb, 1986; Gibson & Dembo, 1984; Tschannen-Moran et al., 1998; Woolfolk et al., 1990), and they are the most important variable to sustainable change in teaching practice (Berman et al., 1977). In this study, participants completed the Teachers' Sense of Efficacy Scale long form (TSES; Tschannen-Moran & Hoy, 2001), which was converted from a Likert scale to constructed response items, prior to starting the pedagogical development program and after its completion.

Pre-TSES responses showing teachers are not facilitating normalization could indicate they believe normalization is strictly a first developmental plane (ages birth to six) phenomenon, as they would not see the need to foster normalization. Such responses would also indicate a low sense of teacher efficacy with respect to normalization because research demonstrates that teachers with a low sense of efficacy will not facilitate learning within certain domains due to the characteristics of the students (Ashton & Webb, 1986; Woolfolk et al., 1990). Thus, if students are assumed to be normalized upon entering the elementary, then there would be no need to foster their normalization. Alternatively, responses showing teacher practices that serve to foster student normalization could indicate an initial belief that normalization occurs beyond the first plane. Thus, any change in their efficacy beliefs could be due to the pedagogical program, and such changes could potentially lead to sustainable change in the teachers' practice (Berman et al., 1977).

Data for the following findings are pulled from responses to the Teachers' Sense of Efficacy Scale long form (TSES; Tschannen-Moran & Hoy, 2001), provided in Appendix D, as well as group and individual community of practice meetings transcripts.

Change From Teacher-Directed to Student-Inclusive

Qualitative analyses show that the program did change the teachers' perceptions of how to foster student normalization. However, data for the administrator could not be obtained, as she was unable to complete the TSES due to time constraints. The changes between the pre- and post-TSES responses provide the strongest evidence of the teachers' perception change surrounding normalization and their teaching sense of efficacy (Ashton & Webb, 1986).

Overall, the data show that teachers initially had a more teacher-directed perspective – as in what a teacher should do to a student to foster student normalization – which changed to a more student-inclusive perspective after the program. Post-TSES responses included more instances wherein the teachers facilitated more opportunities for students to make choices, self-evaluate, determine solutions, and otherwise engage in self-regulated learning strategies (de Boer et al., 2013; Perry et al., 2008). This change shows that teachers were less controlling of students after the program, demonstrating an increase in their teacher efficacy, as research shows that:

> Teachers with a greater sense of both personal and general teaching efficacy seem more trusting of students and more able to relinquish control and share responsibility for solving classroom problems with their students (Woolfolk et al., 1990, p. 146).

Moving from a teacher-directed perspective to one that is more student-inclusive demonstrates greater trust of students, and trust is what Montessori teachers should have. According to Dr. Montessori, as "keeper[s] and custodian[s] of the

environment," teachers should free themselves "from all preconceived ideas concerning the levels at which the children may be" and not worry about non-normalized behaviors. (Montessori, 1967a, p. 252). Rather, teachers must trust the children.

Student engagement practices. Samantha's pre-TSES responses center around supporting students by providing consistency, compassion, and encouragement through challenging work to foster resiliency. In her post-TSES responses, however, Samantha discusses helping the children to learn self-regulated learning strategies that they can access on their own. To get through to the most difficult students, for instance, Samantha goes beyond just inspiring them; she helps them learn to self-reflect so that they can determine when they have gotten off track with their work. She wrote:

> …try to get them to self-reflect and learn that skill so that in a difficult moment it can be accessed, and eventually, even prevent the difficult moment.

Self-reflection is a self-regulated learning management strategy that helps the student remain committed to the work goal regardless of distractions (de Boer et al., 2013). Samantha also discussed teaching students metacognitive strategies, including self-evaluation of one's work and work habits (Zimmerman & Pons, 1986).

Pamela and Angela, however, did not discuss teaching the students explicit self-regulated learning strategies in their responses, but their responses do point to general strategies that foster an environment of self-regulated learning. For instance, to help students think critically, Pamela moved away from focusing on her fidelity to the lessons to providing the students with opportunities to independently solve both social and academic problems:

> I think I help my children to think critically by giving them social and academic problems they can solve on their own, and asking increasingly more complex questions as they become more independent.

This aligns with research showing that high self-regulated learning classrooms provide students opportunities to engage in complex tasks that are meaningful (Perry, 1998). These strategies are also used by teachers with high teaching self-efficacy beliefs (Ashton & Webb, 1986).

Similarly, Angela's post-TSES responses were less about the teacher and more about the children: giving them space to conduct their own investigations without imposing her expectations at all times. Like Pamela, Angela is provided more opportunities for the students to independently engage in meaningful and complex tasks, creating a high self-regulated learning classroom environment (Perry et al., 2008).

The teachers' increase in fostering self-regulated learning environments (de Boer et al., 2013; Perry, 1998) indicates an overall increase in their teacher efficacy beliefs on student engagement. Research shows that teachers with a high sense of teaching efficacy are less controlling and empower students to solve problems (Ashton & Webb, 1986; Woolfolk et al., 1990).

Instructional strategies. The pre- and post-TSES responses show that the teachers move from thinking not only about what they can do alone in terms of instructional strategy but to also including the children in those strategies. For instance, instead of just being prepared to answer difficult student questions herself, Samantha talked about engaging the students in processing the questions to determine answers:

> It is important to take the questions seriously, and if we don't know what to say, take time to think about it. You can also engage them in trying to figure it out with you.

Engaging students in processing answers to questions is a type of metacognitive planning and prediction strategy wherein, together, the teacher and student determine possible steps and/or resources to finding answers to difficult questions (de Boer et al., 2013; Zimmerman & Pons, 1986). This can then become a process that students can eventually use independently. As Samantha learned these strategies through the mapping process, she began to apply the insights within her own instructional practice, which indicates a higher sense of efficacy in instructional strategies (Tschannen-Moran & Hoy, 2007).

Similarly, in her post-TSES responses, Pamela moves from thinking about lesson planning and challenging the students on her own to planning with the children and asking them how they can challenge themselves. This latter point regarding challenging work likely came out of the group discussions regarding confusing normalization with other behaviors and self-regulated learning, as self-regulated learners consistently engage in challenging work (de Boer et al., 2013; Zimmerman & Pons, 1986). Pamela also states that by "being up front with the children," implementing an alternative strategy is "more likely to be successful" because the children feel engaged in the change. Engaging the students in this way fosters a high self-regulated learning environment (Perry, 1998; Perry et al., 2002). This is different from her pre-TSES response, which did not include the students and also showed that she was wary of even trying strategies outside of her Montessori training.

Further, Angela, who is the most novice teacher, initially relied on the curriculum to prepare and move the children towards their individual and appropriate level of work. In her post-TSES responses, however, like Samantha and Pamela, Angela moved to including the children via their weekly check-in meetings to determine the next lessons

for which they may be ready. Though these check-in meetings were part of the classroom routine prior to this pedagogical program, based on her pre-TSES responses, it appears Angela may not have been using these meetings to engage students in planning their next lessons.

Overall, these changes in the teachers' pre- and post-TSES responses show an increase in their teacher sense of efficacy related to instructional strategies as teachers with a high sense of efficacy think less in terms of "containment and control" (Ashton & Webb, 1986, p. 81) and focus more on helping students to learn. However, in this Montessori context, the learning is less about content and more about fostering self-regulated learning (de Boer et al., 2013; Perry, 1998; Zimmerman & Pons, 1986).

Classroom management practices. Data analyses with respect to classroom management demonstrate again how the teachers move from focusing on their own role in managing the classroom in pre-TSES responses to including the children in determining classroom procedures and routines in their post-TSES responses. Samantha discusses working with students so they can come up with solutions that will help them regulate their behavior. She also discusses asking students what classroom management systems might work better, noting that the students often have ideas for solutions that can be used as provided or further guided with adult input.

Like Samantha, Pamela also discusses in her post-TSES responses engaging the children in developing classroom routines and procedures rather than merely imposing them onto the students. She states:

> I think I can get the children to follow classroom rules best by engaging them in the creation and maintenance of the procedures in the classroom. A sense of pride and ownership helps them hold themselves and others accountable.

This more inclusive response is a change from her pre-TSES response wherein Pamela only discussed needing to observe when the children do and do not follow the rules, and discussing with them "why deviating from the rules is a detriment to the classroom environment." Ultimately, by involving students in creating and maintaining classroom rules, Pamela is showing her students that she is not the only authority. Instead, she and the students share responsibility for the effective functioning of the classroom.

Finally, Angela moves from repeatedly asking children to follow the rules – "Ask. Ask. Ask again" – to using the regularly scheduled weekly class meetings for the children to discuss and even possibly change the classroom rules. Like Pamela, she moved to giving her students a sense of ownership over the classroom environment.

Together, these data indicate an increase in the teachers acting as facilitators rather than managers, which is indicative of a high self-regulated learning environment (Perry, 1998). It is also indicative of an increase in the teachers' sense of efficacy. Teachers with a high sense of efficacy worry less about their authority and students challenging it and, instead, are more focused on facilitating student learning (Ashton & Webb, 1986), or in this instance, student learning with respect to normalization.

Changing Beliefs and Practices Through Verbal Persuasion Experiences

The community of practice discussions also provided opportunities for verbal persuasion experiences, as teachers shared their experiences and strategies for fostering normalization (Ashton & Webb, 1986). For instance, after the researcher introduced Zimmerman and Pons' (1986), self-regulated learning strategies, Samantha asked the group how she could guide students towards completing one research project before starting a new one. She also asked how to facilitate student independence in the written

portion of their research projects. This provided Angela the opportunity to share a process she employs in her own classroom to foster student independence in their writing (though this process was originally implemented by a more senior teacher she replaced):

> We have our Joy of Writing for the outline, for an essay. We have two children in the class right now who are going to it daily as a reminder of how to format the essay that they want to write. It's been really helpful for a number of things…[the students] know that they can help each other, too.

This discussion shows how a community of practice can create situations in which a novice Montessori teacher can provide information and strategies to a more experienced teacher through verbal persuasion experiences. In the community of practice literature, it is generally discussed how a more experienced teacher provides mentoring and information to novice teachers (Lave & Wenger, 1991; Putnam & Borko, 2000). However, because a community of practice is designed such that all members can share information and negotiate meaning, this is not always the case, as demonstrated by the above discussion (Wenger, 1998). And while Angela provided an example of a writing tool employed in her classroom that she did not herself create, her experience in taking over a classroom from a more veteran teacher allowed her to provide a strategy that Samantha, a more experienced teacher, had not considered. Additionally, Angela pointed out that providing a writing tool that promotes student independence also gives students opportunities to help one another in their writing process, allowing the researcher to tie this behavior to the help-seeking strategy defined in the self-regulated learning research literature (de Boer et al., 2013; Zimmerman & Pons, 1986). In the end, Samantha appeared receptive to Angela's experience, suggesting that this verbal persuasion

experience helped to influence Samantha's behavior in the classroom and increase her sense of teacher efficacy (Ashton & Webb, 1986).

Mapping normalization to self-regulated learning also prompted the opportunity to clarify what scaffolding of normalization looks like. During the fourth group session, in which self-regulated learning strategies were introduced and discussed, Angela shared a to-do list strategy she had implemented with the entire class to help students track their own work and keep them accountable for practicing specific lessons. However, the Administrator pointed out that implementing class-wide strategies means imposing unnecessary strategies on those children who do not need them. She suggested that for some children, such class wide strategies, can become an unnecessary "crutch" for children who already successfully track their work. Through this discussion, Angela changed her perception of how to foster normalization in students and learned how to implement an effective strategy for each student within a Montessori context:

> …I have appreciated the [to-do] list as a tool to help them self-regulate, I guess, but I will definitely be continuously careful letting it become a crutch for those who don't need that kind of guidance, and also a demand on those who really can't be helped by that…those children who are like, "I am not interested in keeping this list. I have so many other things going on that I am not going to come to it…it's going to make me so upset that you're making me do this, then it's not going to help me."

Additionally, as this discussion continued, Angela came to realize that the children might learn strategies from one another rather than her having to impose class-wide strategies on them:

> That came to a thought. We were talking about social guidance, and they can take from each other, and they can see that, so "Some of you used this strategy, and it's working for you. It's not working for me, so if I find a strategy and it will work for me, then I get to do work the way that you all are doing work" so that they see success in other children with a strategy,

> so they are prompted or helped along to find what will work for them because they are seeing success in others too.

Through this discussion, Angela learned more about how to effectively foster normalization for each student rather than imposing strategies onto all students. Given that regular faculty meetings often focus on day-to-day issues, it is possible that this discussion might not have otherwise occurred. General questions, such as "How are you fostering student normalization?" are rarely asked during typical faculty meetings. The community of practice meetings, however, allowed time for the teachers to delve more deeply into a construct that is at the core of Montessori pedagogy (Montessori, 1967a). Thus, it was the community of practice that contributed to Angela gaining a more nuanced understanding of how to foster student normalization, which changed her practices, indicating a change in her efficacy beliefs.

Overall, the community of practice provided time outside of regular faculty meetings, which are dominated by day-to-day issues and planning for upcoming events, for the participants to share strategies and discuss how those strategies may or may not foster student normalization. It was those discussions that led to a change in teachers' and administrators' perception of how to foster student normalization.

Teacher Efficacy and Practices Conclusions

Overall, data from the TSES show that teachers moved from a more teacher-directed perspective regarding fostering student normalization to a more student-inclusive perspective after the program. This finding is somewhat surprising because Montessori is a child-centered rather than teacher-directed pedagogy (Montessori National Curricululm, 2012b). However, if participants initially believed that students are normalized only during the first developmental plane, this may actually explain why their responses to

non-normalized student behavior was more teacher-directed. Essentially, such a belief would mean teachers do not and cannot foster student normalization during the elementary years. Thus, the response to non-normalized behavior might be more about managing behaviors (Ashton & Webb, 1986) rather than facilitating normalization.

However, the finding that participants believe normalization is a developmental process that goes beyond the first plane of development contradicts this interpretation. Yet it is possible that participants may hold these two contradictory beliefs in their minds simultaneously. Given the amount of time spent during the program discussing whether or not normalization is a transformation of the personality, the participants' concerns that "going on record" by stating normalization mapped to self-regulated learning indicates a shift from a strict interpretation of the AMI pedagogy, and the strong culture of AMI in general (Cossentino, 2009), one could speculate that the participants' pre-TSES responses represent adherence to their training. The pull of AMI's culture and training is strong; thus, while they can observe in practice that normalization is an ongoing developmental process, their strong commitment to AMI's pedagogy could potentially cause them to hold contradictory beliefs simultaneously. And perhaps this pedagogical program gave them the full awareness and permission they needed to reconcile their inner cognitive dissonance (Tavris & Aronson, 2008) regarding normalization in theory and in practice.

Overall, participants' move from teacher-directed to student-inclusive shows they viewed themselves more as guides facilitating student learning – one hallmark of a high self-regulated learning classroom (Perry, 1998) – rather than managers at the end of the program. This demonstrates an increase in teacher efficacy, as research shows that teachers with a low sense of efficacy believe students are not capable of change due to

the students' characteristics. Teachers with low efficacy also respond to student misbehaviors with a more managerial approach rather than a relational approach that promotes learning (Ashton & Webb, 1986, p. 81), or in this context, normalization.

Teacher Evaluation – Participants' Perceptions

Given the number of hours spent discussing normalization and mapping it to self-regulated learning theory, participants had very little time to discuss teacher evaluation. Thus, there is limited data related to this topic.

However, in the limited discussion surrounding teacher evaluation, analyses show that participants recognize how subjective classroom observations are due to a lack of consensus regarding normalization. As the Administrator stated during the seventh group session:

> The problem is that [classroom observations are] so subjective. I could walk into a classroom and think it's totally normalized and that teacher could feel like it's not there and vice versa. You experience that when all these different [AMI/USA] consultants come [to observe] and all have different opinions . . . that's why we're constantly talking about, within the culture of the school, what are our expectations because it's so complex to try and tackle what's happening. Here, we can work on something. We can move forward. We can all meet enough to get on the same page and say, "Okay, this is what we're striving for."

In addition to recognizing that classroom observations are subjective, the Administrator and also recognizes, again, that normalization itself is open to subjective interpretation. She also acknowledges trying to facilitate everyone "get[ting] on the same page" so everyone knows what they are "striving" for; however, if the teachers and administration lack consensus on the core construct of the pedagogy, but this lack of consensus is not acknowledged, discussed, and understood, then how does administration know when everyone is, in fact, on the same page? Given the subjectivity of both classroom

observations and normalization, the participants recognized the need to gain consensus with respect to normalization before any teacher evaluation system can be created. Further, from the various sources of data, the teachers agreed that the community of practice meetings were a valuable space wherein this type of consensus could be reached.

Additionally, analyses also show that participants understood the need to determine how to measure a Montessori teacher's effectiveness. They were also excited by the possibility of measuring students' self-regulated learning behaviors as a way to indirectly measure a teacher's effectiveness as well as the effectiveness of Montessori education in general. As Angela stated, self-regulated learning "is something they [conventional educators] appreciate…they're not ready to let go of their test scores yet, but they at least acknowledge…the importance of self-regulated learning." The fact that an accepted construct within the research literature maps to a core Montessori construct provided evidence that Montessori principles may also eventually be acknowledged and understood by researchers and teachers within conventional education settings.

The Most and Least Effective Parts of the Mapping Process

In this section, findings related to the most and least effective parts of the mapping process are provided. Data supporting these findings are pulled from group meeting transcripts.

Change in Perception of Normalization

The findings discussed show that the mapping process changed the teachers' and administrator's perceptions of behaviors important to normalization. Adding to this finding is data showing that when directly asked if they felt the process changed their perception of normalization and how to foster it, participants answered affirmatively. As

Pamela stated, “It’s definitely organized my mind, and how I think about [normalization].”

While this bit of data is limited and does not provide detail as to how participants think it changed their perception of normalization, it does show that they at least acknowledge a change. It also suggests that the pedagogical development program made normalization more concrete for them. Given the number of times participants informally expressed throughout the study how much they appreciated the time to delve deeply into this construct, this acknowledgement is not surprising. While the teachers and administrators did meet regularly outside of this program, those meetings typically focused on the many day-to-day issues, leaving little time for teachers to discuss and reflect upon their understanding of deeper pedagogical constructs. This pedagogical development program provided that time.

Common Language

The process of mapping normalization and self-regulated learning also provided participants with language to use with people who are not Montessori trained. This common language can help bridge connections to prospective and current parents and even conventional education researchers. Angela was particularly excited about using language to connect the Montessori community to the mainstream education research literature:

> …it’s just exciting that we could make a connection to this more mainstream body of thought and now, knowing that we can teach it in a very concrete way rather than sounding flighty or whatever it is that the mainstream is not interested in listening to, but making roads to connect, actually.

"Making roads to connect" is a desire many Montessorians have, as the pedagogy is often misunderstood by others (Murray, 2008), and the "grammar of schooling has," as Tyack and Cuban (1995) state, "become taken for granted as just the way schools are" (p. 85). This can leave Montessorians feeling "puzzled and frustrated," similar to other school reformers (Tyack & Cuban, 1995, p. 85).

Lack of Time

As for the least effective part of the mapping process, the most relevant issue was time. The pedagogical development program began in January and extended through the first week after the school year ended in June. Given the complexity of normalization, more time was devoted to discussing that construct than self-regulated learning. While the participants appeared to understand self-regulated learning and the program affected their perception of normalization, the participants would have likely benefitted from more time discussing self-regulated learning apart from normalization to further deepen their understanding.

Conclusions

Overall, the mapping process was effective in helping the participants further explore a construct they assumed they all understood in the same way. As the administrator noted:

> It's good, because something like this forces you to have those conversations that need to be had. I think it's just a nice reminder of just trying to find time to do that and make that time. We've done that with some other topics at school. Even just starting conversations around follow-up work. Just getting on the same page and really coming together in just like "what are our values as a school?" There's the pedagogy but then there's "how do we approach things?" Are we all on the same page when it comes to all these different pieces of the pedagogy?

Finding time to delve deeper into pedagogical constructs and map them to existing scholarly constructs is something from which all schools may benefit to ensure all faculty and staff are "on the same page." It can also provide them with common language they can use to connect with those who are not Montessori trained, particularly parents.

Summary

Overall, the pedagogical development program achieved its purpose: to explore 1) the creation of a community of practice oriented towards mapping normalization (Montessori, 1967a) to self-regulated learning theory (de Boer et al., 2013; Zimmerman & Pons, 1986), 2) changes in Montessori trained elementary teachers' and the administrator's perceptions of normalization, 3) changes in those participants' perceptions of how teachers can foster student normalization, and 4) their perceptions of the community of practice itself.

Conclusions related to normalization and self-regulation and the community of practice and mapping process are summarized below.

Normalization and Self-Regulation: Conceptualization, Beliefs, and Practices

Participants' discussions show that normalization (Montessori, 1967a) is open to subjective interpretation. Not only did participants in this study initially have differing conceptualizations of normalization, but so did the Montessori trainers who were contacted by the Administrator. This subjective nature of normalization can lead each teacher's preference for certain behaviors, such as silence or efficiency, to determine what normalization looks like in students. It can also lead to Montessori teachers confusing normalization with other behaviors where, for instance, quiet or well-behaved students are assumed to be normalized when, in fact, they may not be.

The community of practice discussions also found a gap between theory and practice, which schools are left to mitigate. What teachers learn in theory during training – that normalization is a transformation of the personality that occurs within a critical period of development (the first developmental plane) and "remain[s] stable across time and culture" (Lloyd, 2008, p. 66) – is not what they experience with students in practice. Based on participants' experience, normalization is a developmental process that occurs over the elementary years and beyond. Additionally, concentration, which is thought to be the "normalizing agent" (Lloyd, 2008, p. 65) for only first plane children who posses an absorbent mind (Montessori, 1967a), can also be used with elementary students and even adults. Concentration is not, however, the only path to student normalization. Given that students do not consistently demonstrate normalized behaviors across every context – class time, aftercare, home – the adults' expectations of the children's behaviors within each context also influence whether the children appear normalized. Thus, context and the expectations of the adults within those contexts are also normalizing agents (Lloyd, 2008).

The process of mapping normalization to self-regulated learning prompted the participants to operationalize normalization, which helped them reach consensus as to which student behaviors are important to student normalization. Once the participants went through the mapping process, however, that initial consensus changed to include knowledge and strategies from self-regulated learning theory (de Boer et al., 2013; Zimmerman & Pons, 1986), which the researcher provided. Thus, a somewhat elusive construct became more tangible through mapping known behaviors to this psychological construct.

The program also changed participants' perceptions as how to foster student normalization. Analyses of responses to the Teachers' Sense of Efficacy Scale (TSES), which was converted to constructed response items, showed that teachers' responses included more opportunities for students to make choices, engage in self-evaluation, and determine solutions. Essentially, teachers' responses after the mapping process showed that they would engage students in more self-regulated learning strategies, such as self-evaluation and self-reflection (de Boer et al., 2013; Zimmerman & Pons, 1986) and create a high self-regulated learning classroom environment (Perry, 1998; Perry et al., 2002). The mapping process helped to facilitate this change through engagement in verbal persuasion experiences (Bandura, 1997) surrounding self-regulated learning strategies, which also increased their teacher sense of efficacy (Ashton & Webb, 1986).

While participants did not have a great deal of time to discuss Montessori teacher evaluation in depth, participants acknowledged that classroom observations are highly subjective (Ho & Kane, 2013; Sartain et al., 2011), and a lack of consensus regarding normalization can further exacerbate that issue (Danielson, 2007), rendering any individual school's Montessori teacher evaluation system invalid and unreliable. Additionally, participants also expressed excitement in having language to use with people who are not Montessori trained that explains normalization without using the term. Building connections outside of Montessori is an important goal for these participants.

Finally, because participants' had few opportunities to engage in interactions outside of the formally scheduled community of practice meetings due to a number of reasons – teachers needing to participate in a large number of admissions meetings of

prospective families and preparation for year-end activities, which includes writing highly detailed yearlong progress reports – it can be surmised that the change in teachers' efficacy beliefs is largely due to the this pedagogical development program and the verbal persuasion experiences it provided.

Community of Practice and Mapping Process

The criteria for establishing a community of practice – 1) members have a shared identity, 2) members learn from one another through information sharing via activities and discussions, and 3) members share resources for their shared practice – were met. Thus, a community of practice was established during this program (Wenger, 2011). Additionally, the participants who worked together on a daily basis stated that the pedagogical development program group meetings were an extension of their existing community of practice. However, the value in these meetings was having the time to explore normalization more deeply and map it to an existing construct that they can use as a framework for normalization and the overall learning process. The community of practice also introduced participants to the self-regulated learning strategies (de Boer et al., 2013; Zimmerman & Pons, 1986), which teachers can employ to improve their practice and better foster student normalization.

The process of mapping normalization to self-regulated learning did raise concern amongst the Montessori trained participants that they might be changing or contradicting Association Montessori Internationale (AMI) pedagogy. This prompted participants to reach out to AMI trainers to obtain their views of normalization. The trainers' varied responses reaffirmed the subjective nature of normalization and the need for teachers and administrators to reach consensus on it. Their responses also reassured participants that

their claim that normalization mapped to self-regulated learning theory was not going against what those with higher authority within AMI believe about normalization.

Overall, the mapping process was highly effective. It provided ample opportunities for verbal persuasion experiences and for participants to engage in rich discussion about both normalization and learn about self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986). The self-regulated learning framework, in particular, appeared to orient teachers towards all aspects of the learning process rather than merely focusing on helping children to become self-starters. As one participant noted, teachers may focus on getting children to engage in work, sometimes forgetting that those who are already engaged are not necessarily challenging themselves; and it is those children who can easily fall through the cracks (Hattie, 2009) in a Montessori classroom. Using the self-regulated learning framework as a general guide to the learning phases, the normalization/self-regulated learning map, and student observation can help teachers better assess student behaviors. These tools can also help teachers better support students' learning needs so students are academically growing and not falling through the cracks.

Thus, the pedagogical development program enabled participants to complete two tasks that have never been attempted in a Montessori pedagogical development program: 1) operationalize and gain consensus on normalization, a foundational construct important to Montessori teacher evaluation (Montessori, 1967a), and 2) map normalization to an existing construct within the scholarly literature, self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986).

Chapter 6

Discussion

This chapter discusses the findings in relationship to the literature and delineates implications for practice, recommendations, and limitations.

Relationship to Literature and Implications

This section discusses this study's relationship to the most relevant literature reviewed in chapters one and three: self-regulated learning, teacher effectiveness, classroom observation, and teacher professional development.

Self-regulated learning theory confirmed in Montessori setting. The theoretical framework guiding the direction of the entirety of this study is self-regulated learning theory (de Boer et al., 2013; Schunk & Zimmerman, 2008; Zimmerman & Pons, 1986). The ultimate aim of normalization and Montessori education in general is to have students take responsibility for their own learning and to effectively cooperate with others without being teacher dependent (Montessori, 1967a; Montessori National Curricululm, 2012a, 2012b). Self-regulated learning theory is a good match for normalization as it seeks to have students activate and maintain the behaviors, affects, and cognitions necessary to reach learning goals (Schunk & Zimmerman, 2008). Indeed, the participants

in this study found that normalization does map to self-regulated learning, though normalization goes beyond academic learning and includes other qualities such as preparation for citizenship, effective social skills via grace and courtesy lessons, and gratitude for people who contributed to civilization throughout history (Montessori National Curricululm, 2012b). Thus, this study can add to the self-regulation theoretical literature as it affirmed self-regulatory constructs within the Montessori normalization framework (Montessori, 1967a). It also demonstrated that self-regulated learning strategies have been successfully integrated into multi-age classroom settings within Montessori schools (de Boer et al., 2013; Zimmerman & Pons, 1986).

Similarly, this study has the potential to offer the Montessori literature and communities a body of research that supports the practices currently described within Montessori training. Because this study found that normalization maps to self-regulated learning, and research shows that self-regulated learners consistently challenge themselves and achieve (Abar & Loken, 2010; Ozkal, 2013; Zimmerman, 1990a), Montessori teachers and administrators can use this research to support their claims that their students are academically growing even though they lack test scores and grades. Additionally, self-regulated learning can provide a framework that helps Montessori teachers organize their understanding of normalization and how to foster it using self-regulated learning strategies (de Boer et al., 2013; Zimmerman & Pons, 1986).

Finally, this study can aid conventional education researchers' and practitioners' understanding of Montessori's aims through the framework of self-regulated learning theory. Montessori environments promote grace, courtesy, and citizenship in students, while equipping them with the tools to learn in any domain – a key capability of any

normalized and self-regulated learner (Zimmerman, 1990a). All of these capabilities (grace, courtesy, citizenship, and normalization/self-regulated learning) together empower students to grow into adults who can effectively adapt and innovate in any economic and political environment. Given the exponential change of our economy (Brynjolfsson, McAfee, & Spence, 2014) and society (Castells, 2000), all schools of any pedagogy should equip students with all of these capabilities. Thus, a common language between conventional education researchers and practitioners and Montessorians can begin a conversation that clarifies how these capabilities can be organically developed within a comprehensive system that departs from the "grammar of schooling" (Tyack & Cuban, 1995, p. 85). While most Montessorians assert that their principles and practices are best fostered within a comprehensive system as is done in most Montessori schools, beginning these conversations may lead to the integration of Montessori principles to help all students within all schools achieve these ideal capabilities.

Teacher professional development. Research shows that teacher professional development traditionally uses a top-down approach wherein researchers or other trainers provide evidence-based instructional strategies to teachers (Ball & Cohen, 1999; Darling-Hammond, 1996; Darling-Hammond & McLaughlin, 1995). This approach, while not necessarily effective in generating sustainable change in conventional teaching practice (Borko, 2004; Kirschner et al., 1996; Robinson & Bryce, 2013), is likely to be even less effective in a Montessori context. Montessori, in addition to being an educational method, is also a movement with a strong sense of culture, lineage, tradition, and group identity (Cossentino, 2009; Whitescarver & Cossentino, 2008). This strong culture, lineage, and tradition became apparent during the mapping process portion of this study,

when participants showed concern that they were being asked to change or contradict Association Montessori Internationale (AMI) pedagogy. Their concern led them to contact trainers to obtain their perspectives regarding normalization. The trainers' varied responses to this request reaffirmed for the participants the need to deeply explore normalization and reach consensus regarding it. In fact, reaching consensus about normalization should be done across the Montessori community. Not only will it help to create a valid teacher evaluation system, it will also help to improve teachers' practice. Developing the professional development in this school within a community of practice forum and utilizing verbal persuasion experiences rooted in changing teacher efficacy beliefs and practices (Ashton & Webb, 1986; Tschannen-Moran et al., 1998) allowed for deep change to occur in both reported practices and associated beliefs.

Community of practice. Grounding the pedagogical development program in a community of practice (Lave, 1991; Wenger, 1998) allowed the participants to deeply explore normalization while ensuring their commitment to Montessori's pedagogy, culture, lineage, tradition, and group identity. Had the researcher used a top-down approach, participants may have been more likely to disregard some of the information related to self-regulated learning or development in general. However, because the program felt like an extension of their existing community of practice, the program fostered an environment wherein all participants have expertise to share, and all participants could contribute to negotiating the meaning of normalization (Wenger, 1998). This suggests that professional development in a Montessori or any other educational context should consider using a community of practice approach to support

teacher growth, particularly when a professional who is not a trained teacher is offering outside expertise.

However, given that education researchers are recommending this approach with conventional educators to foster lasting ideological shifts that change teacher practice (Butler et al., 2004; Palincsar et al., 1998), organizations that provide professional development to Montessori teachers may want to reconsider their top-down approach even when the person at the top is Montessori trained. A community of practice gives teachers opportunities to share their experiences and more deeply process and reflect upon their practice. It can also provide them with hands-on experiential learning, wherein teachers actually experience how their students learn in their classrooms (Cook & Buck, 2014). Given that school faculty meetings tend to focus on the day-to-day logistics of the school's operations, having space to delve deeper into pedagogical constructs or experience what their students experience in the classroom could deepen their practice and pedagogical understanding.

Teacher efficacy. In addition to being grounded in a community of practice, the pedagogical development program was also guided by teacher efficacy theory (Ashton & Webb, 1986; Tschannen-Moran & Hoy, 2001). Teacher efficacy beliefs and practices change when teachers are given opportunities to engage in vicarious and verbal persuasion experiences (Bandura, 1977; Tschannen-Moran et al., 1998), which this program provided. These experiences helped participants reach consensus as to which student behaviors are important to student normalization and how they relate to self-regulation as well as change their perceptions of how teachers can foster the same.

Based on analyses of the teachers' responses to the converted TSES, a change in teachers' perceptions of how to foster student normalization was found. While analyses did not necessarily show an increase in teachers' personal teaching efficacy quantitatively (Ashton & Webb, 1986), there was a change in their reported practices regarding fostering student normalization. A change in reported practices can theoretically indicate a change in beliefs that drive those practices. Specifically, participants showed increased use of self-regulated learning strategies after the completion of the program. Whether or not this program leads to a sustained change in the teachers' practice is unknown, as this study is now complete. However, sustainability is possible as research shows that teacher efficacy is the most important variable necessary for sustainable change in teaching (Berman et al., 1977), and professional development programs that take place over the course of several months are more likely to engender sustainable change (Dixon et al., 2014). Thus, schools that engage in this process may see a change in their teachers' practice that increases student normalization due to qualitative change in teacher efficacy beliefs.

This study also adds to the teacher efficacy literature by showing that teachers' efficacy beliefs may be adversely affected by the gap between theory and practice within Montessori schools. Samantha's doubts about her own abilities to help students reach the ideal normalized state as described in her training indicates her low sense of teacher efficacy and supports this finding. Further, the subjective nature of normalization and Samantha's expectation that normalized children are silent and efficient also likely influenced her teacher efficacy beliefs (Ashton & Webb, 1986), further influencing whether or not she fostered student normalization (Gibson & Dembo, 1984; Tschannen-

Moran et al., 1998). Teachers with a low sense of efficacy tend to believe there is nothing they can do to help students improve and learn (Ashton & Webb, 1986). Given Samantha was in her fourth year of teaching at the time of this study, it seems all the more imperative that teachers and administrators throughout the Montessori community reach consensus regarding behaviors important to student normalization so teachers do not spend years misinterpreting their students' behaviors. Student learning should not be compromised because teachers are subjectively conceptualizing normalization. Further, this suggests that Montessori schools need to be aware of this gap so they can bridge it and provide new teachers with proper support through a combination of vicarious and verbal persuasion experiences and emotional support (Bandura, 1977).

Finally, it should be noted that participants had little time to engage in informal discussions about normalization or self-regulated learning outside of this pedagogical development program. The participant school's admissions process requires a steady of stream of face-to-face meetings with prospective families from January through March. From April through the first week of June, teachers are working on end of year activities, including preparing for the end-of-year program and writing highly detailed yearlong progress reports. Thus, the qualitative change in the teachers' sense of efficacy regarding normalization and self-regulated learning is likely due to this program's formal meetings.

Teacher evaluation. Mitigation of the theory-practice gap is relevant to teacher evaluation, as good teacher evaluation does not merely evaluate, it also provides support that fosters personal teaching efficacy development (Danielson, 2012; Tschannen-Moran & Hoy, 2007), which drives teachers' classroom behaviors (Ashton & Webb, 1986; Gibson & Dembo, 1984; Tschannen-Moran et al., 1998). A teacher with high personal

efficacy beliefs, for instance, is less controlling of students and better able to support autonomy (Woolfolk et al., 1990) – an important point for student normalization and self-regulation (de Boer et al., 2013; Montessori, 1967a; Zimmerman & Pons, 1986). Though Samantha did not appear controlling of her students when her classroom was observed, research indicates that classroom observations are highly subjective (Ho & Kane, 2013; Sartain et al., 2011) and student behaviors that appear normalized may be otherwise (Hattie, 2009). Thus, knowing that a teacher may have low personal teaching efficacy beliefs could better inform an administrator's overall evaluation process – in any educational context – and inform ways to better support and retain good teachers.

To determine teachers' sense of efficacy beliefs, administrators could take questions from the TSES, convert them from a Likert scale to constructed response items, and have teachers answer these questions as a self-reflection exercise, which would be a part of the evaluation process. Any controlling language could be identified in their responses, alerting administrators to a possible low sense of teacher efficacy (Ashton & Webb, 1986). This could prompt richer discussion between the administrator and teacher, alerting the administrator to the types of support a teacher may need. Support to increase teacher efficacy could include a combination of vicarious and verbal persuasion experiences and emotional support (Bandura, 1977). This could help reduce teacher burnout and improve the teacher attrition rate in any educational context, not just in Montessori.

Classroom observation variability. Research shows that a core practice in conventional teacher evaluation, classroom observation, is prone to validity and subjectivity issues. Studies have found a principal bias, wherein the principal tends to rate

teachers as "distinguished" more often than peer observers (Ho & Kane, 2013; Sartain et al., 2011). And while student achievement growth scores can be used to validate classroom observation ratings and determine a teacher's effectiveness, there is still controversy over this issue as researchers cannot agree as to which value-added modeling statistical approaches are the most accurate (Baker et al., 2010; Sass, 2008).

This study confirmed that subjectivity of classroom observation is not only a problem within conventional education settings (Ho & Kane, 2013; Sartain et al., 2011), but also within a Montessori context. Further, it is exacerbated by the subjective nature of normalization and Montessori educators' lack of consensus regarding normalization. This clearly shows a need for all Montessori teachers and administrators, and even trainers, to gain consensus on this construct. Such a consensus can lead to the creation of an observation tool that could remediate this issue.

Recommendations for Research

Due to the lack of research specific to teacher evaluation within a Montessori context, this study is the first of its kind. Thus, this study is foundational to the extensive research still needed to develop a valid and reliable Montessori teacher evaluation system. Recommendations for future research are discussed below.

Teacher effectiveness. The first needs assessment administered in this study and discussed in chapter two showed that teachers' and administrators' views of teacher effectiveness did not align with the broadest definition found in the literature (Goe et al., 2008). However, as discussed in chapter two, the second needs assessment found that the student behaviors that teachers and administrators view as indicators of a teacher's effectiveness do correlate with self-regulated learning behaviors (Schunk & Zimmerman,

2008; Zimmerman, 2001). Specifically, challenging oneself, self-reflection, problem-solving, and follow-through on tasks were the self-regulated learning behaviors that respondents identified as demonstrating a teacher's effectiveness. Thus, a conceptualization of normalization that maps to self-regulated learning can potentially be used to create a definition of teacher effectiveness specific to Montessori educators. This study demonstrates that such a conceptualization can be realized and should be explored in future studies.

An outcome of this study was that participants found that normalization (Montessori, 1967a) maps to self-regulated learning (de Boer et al., 2013; Zimmerman & Pons, 1986), an existing construct within the research literature. Future studies could replicate the pedagogical development program described herein at other Montessori schools and with AMI trainers and teacher trainees at all program levels. The outcome of such studies could be a more detailed and standardized definition of normalization for each program level. Definitions derived from replicating this pedagogical development program could then inform the definition of teacher effectiveness for each program level, as students' needs at each developmental plane are different (Montessori National Curricululm, 2012a, 2012b). Additionally, a classroom observation system specific to Montessori could also be created using standardized normalization and teacher effectiveness definitions. However, other research is still needed to determine what constructs, other than normalization, might be important to teacher effectiveness and teacher evaluation within a Montessori context. These constructs could include teacher behaviors or types of discourse (teacher-student and student-student) observed within the classroom.

Self-regulated learning measure. Given that the participants found that normalization maps to self-regulated learning, a measure of student self-regulated learning could eventually be created specifically for Montessori classrooms. The measure could then be used to help validate administrators' classroom observations, similar to conventional education's use of student achievement growth test scores to determine classroom observation validity (Sartain et al., 2011). Such a measure could also help teachers track areas of self-regulated learning with which each student needs support; this is similar to the idea that, in an ideal world, student achievement test scores are used to give teachers feedback so they can more effectively differentiate their practice (Hamilton et al., 2009; Means, Chen, DeBarger, & Padilla, 2011).

Outside of teacher evaluation, a self-regulated learning measure could also be used to compare the self-regulated learning behaviors of Montessori students and students in other educational settings. This could further bolster the small amount of existing evidence demonstrating Montessori's pedagogical effectiveness (Diamond, 2012; Lillard & Else-Quest, 2006), and highlight where conventional education settings are also fostering self-regulation effectively. Essentially, this line of research could become a bridge between Montessori and conventional education.

Fostering normalization. Further research could also examine strategies that Montessori teachers use to foster student normalization. For instance, while concentration is one path to fostering normalization, there is no empirical evidence to verify this. It would be interesting to know if a) concentration does consistently lead to normalization, b) if concentration beyond the first plane of development (birth through age six) leads to normalized behaviors in children and adults, and c) the neurological underpinnings of the

normalization process. Overall, empirical evidence demonstrating effective strategies for fostering normalization would help teachers improve their practice, especially with an integration of the constructs delineated within the self-regulation theory.

Theory and practice gap in teacher evaluation. The gap between theory and practice found in this study should also be further investigated. This gap is a significant point of concern as it essentially leaves the schools responsible for mitigating it. This can be a challenging task for school administrators, especially those who are not trained in Montessori pedagogy, given AMI's strong culture where trainers are viewed as responsible for "the transmission of tradition" (Cossentino, 2009, p. 521). Ultimately, the strong culture creates a tension between trainers and school administrators as administrators attempt to mitigate the gap between theory (which is learned in training from AMI trainers) and practice (which occurs within schools run by administrators) with their teachers, who may feel caught in the middle. This tension can potentially adversely affect the teacher evaluation process, particularly for novice teachers who may feel their administrator (who may not be Montessori trained, or trained at a program level different than that of the teacher's) lacks knowledge of Montessori theory and is, therefore, not equipped to evaluate a teacher's effectiveness. Thus, further research should investigate whether this gap is consistent across schools and across Montessori trainings and how teacher evaluation might be affected by this gap.

Research should also examine how Montessori schools currently mitigate this gap. At this study's participant school, administration made great efforts to actually lower teachers' expectations of the students' behaviors during the hiring process. As the Administrator stated in her individual interview, "I think the only reason Samantha and

Pamela didn't expect [perfectly normalized children] is because I harped on that in interviews…" The question remains as to whether or not other Montessori schools also prepare first-year elementary teachers for fostering student normalization, and how those schools support new teachers in developing student-normalizing strategies.

Developmental appropriateness of final conceptualization of normalization. Time constraints limited the exploration of the overall developmental appropriateness of the group's final agreed upon conceptualization of normalization provided in Table 13. The behaviors listed show that normalized children are expected to have very high-level social, emotional, and self-regulatory skills at a young age. Being able to regulate one's own emotions, impulses, cognitions, and demonstrate emotional and social intelligence can be challenging for adults (Baumeister & Heatherton, 1996; Goleman, 2007) let alone children whose neuronal circuitry for executive functioning is still developing (Menon, 2013). Additionally, regulation of emotions, impulses, and cognitions do not simultaneously develop (Koziol & Budding, 2009); neither is such development necessarily continuous, nor does it occur at the same rate for boys and girls (Raffaelli, Crockett, & Shen, 2005). Yet all of the participants in this study agree that these are the behaviors normalized children should display.

Further, research also shows there is a qualitative difference between the cognitive control of three-and-half year-old and eight year-old children (Chatham, Frank, Munakata, & Carey, 2009). Specifically, younger children demonstrate more "reactive" rather than "proactive" context processing. Thus, eight year-olds show greater ability to act in a proactive manner that predicts a future event while younger children react to events as they unfold with little to no consideration for the future. Chatham et al. (2009)

suggest that this qualitative shift in responding to context represents something other than mere "incremental improvements with development" (p. 5532). What underlies this qualitative shift is still unknown, but it raises the question of whether such high-level regulation as listed in Table 13 is a reasonable expectation of such young children. While research does show that young children can and do engage in behaviors to self-regulate their learning (Bronson, 2000; Perry, 1998), and that they benefit from self-regulated learning training (Hattie, Biggs, & Purdie, 1996), the question remains whether the final conceptualization of normalization is developmentally appropriate for children younger than age eight.

Perseverance through frustration. As participants operationalized work, one of the behaviors Montessori identifies under normalization (Montessori, 1967a), they determined that perseverance through frustration is a normalized behavior. Initially, however, Samantha discussed finding the "sweet spot" between work that is either too easy or too challenging, and Pamela expressed that she equated frustration with students being "done," thus frustration should be avoided. This is an issue that warrants future investigation. Children appearing "joyful" as they work is considered an important indicator of a good Montessori classroom. In fact, the National Center for Montessori in the Public Sector has created a Developmental Environmental Rating Scale (DERS) that measures the quality of Montessori classroom environments and lists "joy" as one of its "primary child behaviors" (National Center for Montessori in the Public Sector, 2017). What the research shows, however, is that some learning experiences such as deliberate practice are not necessarily enjoyable (Ericsson & Ward, 2007) while other learning experiences such as "flow" are (Csikszentmihalyi, 1991).

When Samantha referred to the "sweet spot" between work that is too easy or too challenging, she may have been referring to what Csikszentmihalyi (1991) calls a "flow" state. When a person is in a state of flow, she experiences joy partly because the task at hand is challenging but not so challenging that it causes frustration. In fact, Lloyd (2008) compares Csikszentmihalyi's (1991) flow (also known as optimal experience theory) to Montessori's normalization, and finds that they correlate on every aspect but one: the absorbent mind. And research does show that, at least at the middle school level, Montessori students experience more flow experiences than students in conventional schools (Rathunde & Csikszentmihalyi, 2005). But as Ericsson and Ward (2007) point out:

> It is clear that skilled individuals can sometimes experience highly enjoyable states ("flow" as described by Mihaly Csikszentmikalyi, 1990) during their performance. These states are, however, incompatible with deliberate practice, in which individuals engage in a (typically planned) training activity aimed at reaching a level just beyond the currently attainable level of performance by engaging in full concentration, analysis after feedback, and repetitions with refinement (p. 349).

This suggests that joy is more likely to be observed in students once they have gained sufficient skill in a particular activity. However, if Montessori teachers expect that children should experience joy at least most of the time, or assume that frustration should be avoided as Pamela did, their teacher efficacy could be adversely affected. They may, for instance, assume they are failing children who are expressing frustration. Or they may guide students toward less challenging tasks to avoid frustration, enabling students to take a "well-being track" rather than a "growth track" (Black & Wiliam, 2009). Thus, teachers' focus on joy or flow experiences should be further investigated to determine how their efficacy beliefs are affected.

Additionally, just as the self-regulated learning framework can help orient teachers to all phases of a student's learning cycle instead of focusing on only the initial engagement phase, further investigation into teachers' perceptions of flow and learning could determine ways in which teachers can be oriented to all types of learning experiences, including deliberate practice within a Montessori context. While deliberate practice experiences are typically planned by a teacher in conventional education rather than the student, in Montessori, students should plan such experiences themselves. Helping teachers determine strategies that guide children towards deliberate practice or help children persevere through frustration can be determined. Finally, it would be interesting to see from an emotional and self-regulatory perspective if and how flow experiences in a Montessori classroom might mitigate the effects of less joyful learning experiences for students.

Overall, there is much more research to be done. This study is only the beginning.

Limitations

As stated earlier, during the process of hiring two of the participants in this study who were newly trained and in their first year of teaching, the school administrator deliberately lowered their expectations regarding student behaviors. Specifically, she sought to ensure that they would not expect to walk into a classroom full of well-behaved, normalized children. Instead, she helped them understand that guiding the children towards normalized behaviors would be a large part of their work. This likely influenced their responses to the TSES and discussion questions. Thus, it is unknown how their responses may have differed had they not been told to expect to foster student normalization within their elementary classrooms.

Other limitations of this study are due to the timetable of this researcher's doctoral program and participants' schedules and are discussed below.

Participants. Due to time and other logistical constraints, normalization could only be explored with the elementary teachers at Mountain Montessori. Thus, while consensus regarding student behaviors important to normalization was achieved at the elementary level for this one school, teachers at the toddler, primary, and adolescent levels still have varying perspectives. Additionally, because only one school and three teachers and one administrator participated, this study needs to be replicated in many other schools and Montessori teacher trainer settings to gain consensus for the entire Montessori community as to what student behaviors are important to student normalization at each program level.

Data. The amount of responsibilities participants have outside of class hours limited participants' willingness take and provide field notes. Also, no TSES data was obtained from the Administrator due to her time constraints. Finally, due to the researcher's schedule and also out of respect for the many other observers (both prospective and current parents) participants had in their classrooms on a daily basis, more observations could not be scheduled, thus, limiting these data.

Teacher evaluation. Time constraints also limited the discussion surrounding teacher evaluation as well as opportunities for teachers to try self-regulated learning strategies in their classrooms and report their experiences back to the group. With respect to the latter issue, participants were not able to engage in mastery or vicarious experiences (Bandura, 1977). Additionally, while participants stated that they felt the program was an extension of their own community of practice, it is unknown how the

lack of such time constraints might have otherwise affected the program and its outcomes.

Conclusion

Due to the lack of research specific to teacher evaluation within a Montessori context, this study is the first of its kind and opens the door to the extensive research still needed to develop a valid and reliable Montessori teacher evaluation system. Overall, this study shows that a pedagogical development program grounded in a community of practice (Lave & Wenger, 1991) and guided by teacher efficacy theory (Ashton & Webb, 1986) can change Montessori trained elementary teachers' and administrators' perceptions of normalization and how teachers can foster it, as well as teachers' efficacy beliefs and associated practices. Further, self-regulated learning, a scholarly construct with more than thirty years of research supporting it (de Boer et al., 2013; Zimmerman & Pons, 1986) maps to normalization. This mapping offers the Montessori literature and communities a body of research that supports normalization, a main tenet of Montessori pedagogy (Montessori, 1967a). Further, it offers conventional education practitioners and scholars a tool for better understanding the strengths of the Montessori pedagogical approach.

Finally, this study also identifies significant gaps between what Montessori teachers learn in training about normalization and what they see in practice, showing the need for schools, and better yet, training centers, to mitigate this gap so new Montessori teachers' sense of efficacy is not adversely affected. Finding this theory-practice gap is a reminder for all Montessorians to do as Dr. Montessori implored:

> …turn your attention from me in the direction in which I am pointing—to The Child (Standing, 1998, p. 78)

Ultimately, while theory can guide teacher practice, it is the students who show the teachers what they truly need.

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Appendix A

NEEDS ASSESSEMENT – Survey 1

Please answer the following questions based upon your experience at your current school.

1. What is your current position?

   ☐ Montessori Elementary Teacher ☐ Administrator

   ☐ Administrator / Teacher

   ☐ Other _____

2. How many years of experience do you have as a Montessori elementary teacher, administrator, or administrator / teacher?

   ☐ less than 5 years

   ☐ 5 – 10 years

   ☐ 10 – 15 years

   ☐ 15 – 20 years

   ☐ 20 – 25 years

   ☐ 25 + years

3. If you are currently an administrator, do you have any Montessori teaching experience?

☐ Yes ☐ No

a. If you answered yes, how many years of teaching experience do you have?

☐ less than 5 years

☐ 5 – 10 years

☐ 10 – 15 years

☐ 15 – 20 years

☐ 20 – 25 years

☐ 25 + years

4. Are you Montessori trained?

☐ Yes ☐ No

a. If yes, what is your training?

☐ AMI ☐ AMS ☐ MACTE ☐ IMC

☐ Other _____

5. Your school's current teacher evaluation system includes the following processes (please check all that apply):

☐	Pre-meeting explaining evaluation process	☐	Classroom observations	☐	More than one evaluating administrator
☐	Teacher goal setting	☐	Pre-observation meetings with administrator	☐	Peer evaluation
☐	Teacher self-evaluation	☐	Post-observation meetings with administrator	☐	Input from assistant
☐	Student Outcome Measures	☐	Lesson Plan Review	☐	Student Record Review

6. Are there any other components to your school's Montessori teacher evaluation system that are not listed above? If so, please describe:

7. Please select the response that fits your experience at your current school:

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
I feel the current teacher evaluation system is more evaluative than supportive.	☐	☐	☐	☐
I feel the current teacher evaluation system is more supportive than evaluative.	☐	☐	☐	☐
I feel the current teacher evaluation system improves teacher practice within the classroom.	☐	☐	☐	☐

8. Do you feel your school's current teacher evaluation system is tied to student progress?

   ☐ Yes

   ☐ No

9. From your perspective, how much support does the current teacher evaluation system provide to improve Montessori practice within your school's elementary classrooms?

   ☐ A great deal of support

   ☐ A lot of support

   ☐ A moderate amount of support

   ☐ A little support

   ☐ No support

10. If you are a teacher, how improved is your practice in the classroom after receiving support from your supervisor?

    ☐ I am not a teacher

    ☐ Extremely improved

    ☐ Very improved

    ☐ Moderately improved

    ☐ Slightly improved

    ☐ Not at all improved

11. In your opinion as a teacher or administrator, what specific types of support have most improved practice in your school's classrooms?

12. In your opinion as a teacher or administrator, what specific types of support provided have been the least helpful?

13. What suggestions do you have for improving the current teacher evaluation system?

14. Overall, what aspects of your school's evaluation system are done well?

15. On a scale of 1 – 5, with 5 being the highest rating, please rate your school's current Montessori teacher evaluation system.

    ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

    a. Please explain your rating:

16. To be an effective Montessori teacher, how important are each of the following:

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Having high expectations for students	☐	☐	☐	☐	☐
Helping students to learn	☐	☐	☐	☐	☐
Contributing to positive student social and emotional outcomes	☐	☐	☐	☐	☐
Contributing to development of civically-minded classroom and school environments	☐	☐	☐	☐	☐

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Collaborating with parents to foster student success	☐	☐	☐	☐	☐
Collaborating with appropriate school personnel to foster student success	☐	☐	☐	☐	☐
Understanding needs and tendencies inherent in children of all ages	☐	☐	☐	☐	☐
Understanding the psychological characteristics of each developmental stage	☐	☐	☐	☐	☐
Understanding the technical aspects of materials and lessons	☐	☐	☐	☐	☐
Knowing when to be directive versus supportive with students	☐	☐	☐	☐	☐
Demonstrating knowledge of environmental design and preparation	☐	☐	☐	☐	☐
Fostering student concentration	☐	☐	☐	☐	☐

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Knowing state curriculum and assessment requirements	☐	☐	☐	☐	☐
Knowing how to adapt state curriculum not covered by the Montessori curriculum into lessons using the Montessori approach	☐	☐	☐	☐	☐
Fostering student self-regulated learning	☐	☐	☐	☐	☐
Fostering students' love of humanity	☐	☐	☐	☐	☐

17. If you are a teacher, how do you know if you are being an effective teacher?

18. What other qualities, knowledge, or behaviors are important to be an effective elementary Montessori teacher?

Appendix B

NEEDS ASSESSMENT – Survey 2

Please answer the following questions based upon your experience at your current school.

1. What is your current position?

   ☐ Montessori Elementary Teacher ☐ Administrator

   ☐ Administrator / Teacher ☐ Other _____

2. How many years of experience do you have as a Montessori elementary teacher, administrator, or administrator / teacher?

   ☐ less than 5 years

   ☐ 5 – 10 years

   ☐ 10 – 15 years

   ☐ 15 – 20 years

   ☐ 20 – 25 years

   ☐ 25 + years

3. If you are currently an administrator, do you have any Montessori teaching experience?

☐ Yes ☐ No

15. If you answered yes, how many years of teaching experience do you have?

☐ less than 5 years

☐ 5 – 10 years

☐ 10 – 15 years

☐ 15 – 20 years

☐ 20 – 25 years

☐ 25 + years

4. Are you Montessori trained?

☐ Yes ☐ No

15. If yes, what is your training?

☐ AMI ☐ AMS ☐ MACTE ☐ IMC ☐ Other _____

5. For a Montessori elementary student to be considered truly "normalized," how important is each of the following:

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Ability to regulate one's own thoughts, emotions, behavior, and attention	☐	☐	☐	☐	☐
Analyze tasks	☐	☐	☐	☐	☐
Set goals and plan	☐	☐	☐	☐	☐

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Ability to monitor and regulate one's motivation	☐	☐	☐	☐	☐
Ability to self-reflect upon one's own behaviors	☐	☐	☐	☐	☐
Ability to reflect upon external feedback	☐	☐	☐	☐	☐
Ability to structure the environment so one's own learning is supported	☐	☐	☐	☐	☐
Consistently challenging one's self	☐	☐	☐	☐	☐

6. In your words, please describe a "normalized" elementary child:

7. For respondents with elementary teaching experience, if an elementary child is not "normalized," what steps would you take to help him or her normalize?

8. For respondents with elementary teaching experience, how do you know if a student is achieving to the best of his or her ability?

9. In assessing students' academic achievement, how important is each of the following:

	Extremely important	Very important	Moderately important	Slightly important	Not at all important
Observation of student behavior	☐	☐	☐	☐	☐
Reviewing student work	☐	☐	☐	☐	☐
Noting student questions during lessons	☐	☐	☐	☐	☐
Asking questions of the student	☐	☐	☐	☐	☐
Student check-in meetings	☐	☐	☐	☐	☐
Checking student work record journals	☐	☐	☐	☐	☐
One-on-one editing or reading time with student	☐	☐	☐	☐	☐

10. If you conduct one-on-one elementary student check-in meetings, how often do you hold them?

☐ Once a week

☐ Twice a week

☐ Once a month

☐ Other _____

11. On average, how often do you provide feedback to each student?

    ☐ At least once a day

    ☐ At least twice a week

    ☐ As often as possible

    ☐ Other _____

12. What other methods do you use to assess an elementary student's academic achievement?

13. If you are an administrator, how do you know if a teacher's elementary students are achieving academically?

14. If you are an administrator, which methods do you use to evaluate a teacher's effectiveness?

☐	Pre-meeting explaining evaluation process	☐	Classroom observations	☐	More than one evaluating administrator
☐	Teacher goal setting	☐	Pre-observation meetings with administrator	☐	Peer evaluation
☐	Teacher self-evaluation	☐	Post-observation meetings with administrator	☐	Input from assistant
☐	Student Outcome Measures	☐	Lesson Plan Review	☐	Student Record Review

15. If you are an administrator, how do you know if a teacher is truly effective?

Appendix C

Community of Practice Meeting Topics and General Insights

Group Session	Topics	General Insights
Session 1	Introduction	Normalization is subjectively interpreted
	Needs assessment results	
	Community of practice	Normalization can be confused with other behaviors
	Begin discussing normalization	Teachers can foster student normalization
	Normalization as critical period in development	
Session 2	Normalization of non-Montessori students in elementary	Normalization is a developmental process that occurs beyond primary (ages 0-6)
	Normalization in context	Normalized behaviors are context dependent
	Normalization as transformation of the personality - theory	
Session 3	Negotiate meaning of and operationalize normalization	Differing views regarding challenging work and perseverance through frustration; eventual consensus reached
		Consensus regarding normalization reached
Session 4	Introduce self-regulated learning definitions	Participants recognize self-regulated learning strategies they already employ in the classroom – begin to see how normalization and self-regulation constructs share common goals
	Discuss self-regulated learning strategies as defined by Zimmerman and Pons (1986) already in use in classroom	

Session 5	Begin mapping normalization and self-regulated learning	Participants begin to see how normalization maps to self-regulated learning
Session 6	Normalization as transformation of the personality – theory versus practice	Normalization is a developmental process that occurs beyond primary (ages 0-6) Normalized behaviors are context dependent Gap between theory and practice
Session 7	Normalization as transformation of the personality – theory versus practice	Normalization is a developmental process that occurs beyond primary (ages 0-6) Normalized behaviors are context dependent Gap between theory and practice
Session 8	AMI trainers' views of normalization de Boer et al.'s (2013) self-regulated learning strategies Continue mapping process	Trainers' lack of consensus gives participants license to use normalization at elementary level for this study and in practice
Session 9	Mapping process completed Teacher evaluation, community of practice and mapping processes	Normalization maps to self-regulated learning Teachers feel pedagogical program changed their perspectives of behaviors important to student normalization and how they can foster normalization

Appendix D

Teachers' Sense of Efficacy Scale

Teacher Beliefs

Developed by Megan Tschannen-Moran and Anita Woolfolk Hoy

Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about of the statements below with a just few sentences. Your answers are confidential.

1. **How much can you do to get through to the most difficult students?**
2. **How much can you do to help your students think critically?**
3. **How much can you do to control disruptive behavior in the classroom?**
4. **How much can you do to motivate students who show low interest in school work?**
5. **To what extent can you make your expectations clear about student behavior?**
6. **How much can you do to get students to believe they can do well in school work?**
7. **How well can you respond to difficult questions from your students?**
8. **How well can you establish routines to keep activities running smoothly?**
9. **How much can you do to help your students value learning?**
10. **How much can you gauge student comprehension of what you have taught?**
11. **To what extent can you craft good questions for your students?**

12. How much can you do to foster student creativity?

13. How much can you do to get children to follow classroom rules?

14. How much can you do to improve the understanding of a student who is failing?

15. How much can you do to calm a student who is disruptive or noisy?

16. How well can you establish a classroom management system with each group of students?

17. How much can you do to adjust your lessons to the proper level for individual students?

18. How much can you use a variety of assessment strategies?

19. How well can you keep a few problem students from ruining an entire lesson?

20. To what extent can you provide an alternative explanation or example when students are confused?

21. How well can you respond to defiant students?

22. How much can you assist families in helping their children do well in school?

23. How well can you implement alternative strategies in your classroom?

24. How well can you provide appropriate challenges for very capable students?

Appendix E

Letter to Study Participants

Dear Montessori Teachers and Administrators:

I am a doctoral student at Johns Hopkins University School of Education, and I am contacting you because your current head of school granted permission for me to ask you to participate in a study for my dissertation exploring school processes within Montessori education practice.

This study will be held at your school site and will involve collecting data through short surveys, interviews, meetings, and classroom observations over a period of approximately three months beginning in January. Meetings and interviews can be held at your convenience.

Your participation in this study can help build a foundation for further research of Montessori practice within schools, as there is currently a dearth of such research in the scholarly literature. This study also has the potential to elevate the practice of its participants through conversation and the sharing of ideas with respect to school processes, including helping children to normalize.

If you have any questions about the study or agree to participate, please feel free to contact me either via email or at the number listed below my signature.

Should you choose to participate, please read and sign the attached.

Best,

Laura Flores Shaw
Johns Hopkins University, School of Education

Appendix F

Consent Form
Johns Hopkins University
Homewood Institutional Review Board (HIRB)

Informed Consent

Title: Montessori Teacher Evaluation
Principal Investigator: Laura Flores Shaw
Date: August 1, 2015

PURPOSE OF RESEARCH STUDY:
The purpose of the present study is to explore school processes within Montessori education practice.

PROCEDURES:
This study will involve collecting data through surveys, interviews, meetings, and classroom observations over a period of approximately three months. Meetings and interviews can be held at your convenience.

Your participation is voluntary and you can stop at any time.

RISKS/DISCOMFORTS:
There are no anticipated discomforts to study participants.

The risks associated with participation in this study are no greater than those encountered in daily life.

BENEFITS:
This study also has the potential to elevate the practice of its participants through conversation and the sharing of ideas with respect to school processes.

Your participation in this study can also help build a foundation for further research of Montessori practice within schools, as there is currently a dearth of such research in the scholarly literature. Such research could support bringing Montessori education to more children.

VOLUNTARY PARTICIPATION AND RIGHT TO WITHDRAW:
Your participation in this study is entirely voluntary. You choose whether to participate and will indicate below whether you agree to take part in the study. If you decide not to participate, or at a later time choose not to participate, there are no penalties. There is no risk to employment should you decide not to take part or withdraw from the study.

You can stop participation in the study at any time, without any penalty or lost benefits. If you want to withdraw from the study, or want to stop participating, you are free to do so at any time during this data collection.

CONFIDENTIALITY:
Any study records that identify you will be kept confidential to the extent possible by law. The records from your participation may be reviewed by people responsible for making sure that research is done properly, including members of the Johns Hopkins University Homewood Institutional Review Board and officials from government agencies such as the office for Human Research Protections. (All of these people are required to keep your identity confidential.) Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

All measures will be examined by the Principal investigator and research affiliates only (including those entities described above). No identifiable information will be included in any reports of the research published or provided to school administration. A participant number will be assigned to all data.

Collected data will be stored on the PI's personal computer, which is password protected, or in a locked file cabinet. Any paper files will be shredded, five years after collected. Meetings and interviews will be audio recorded for transcription and coding. Participants' confidentiality will be maintained in all transcriptions. Audio recordings will be kept on the PI's personal computer and will be deleted after five years.

Only group data will be included in publication; no individual achievement data will ever be published.

COMPENSATION:
You will not receive any payment or other compensation for participating in this study.

IF YOU HAVE QUESTIONS OR CONCERNS:

You can ask questions about this research study at any time during the study by contacting Laura Flores Shaw at 213-344-7724 or by email at lshaw14@jhu.edu. Alternatively, you can contact my adviser, Dr. Ranjini JohnBull, at 410-824-4270 or by email at rmjohnbull@jhu.edu

If you have questions about your rights as a research participant or feel that you have not been treated fairly, please call the Homewood Institutional Review Board at Johns Hopkins University at (410) 516-6580.

SIGNATURES

WHAT YOUR SIGNATURE MEANS:

Your signature below means that you understand the information in this consent form. Your signature also means that you agree to participate in the study.

By signing this consent form, you have not waived any legal rights you otherwise would have as a participant in a research study.

Participant's Signature	**Date**
Signature of Person Obtaining Consent (Investigator or HIRB Approved Designee)	**Date**

LAURA FLORES SHAW

lshaw14@jhu.edu

EDUCATION

JOHNS HOPKINS UNIVERSITY, SCHOOL OF EDUCATION

Doctor of Education, Mind, Brain, and Teaching specialization, August 2017
Dissertation: *Exploration of Normalization: A Construct Foundational to Montessori Teacher Evaluation*

CALIFORNIA STATE POLYTECHNIC UNIVERSITY, POMONA

Master of Science, Psychology, Psychology (Family Systems Therapy), May 2007

UNIVERSITY OF MASSACHUSETTS, BOSTON

Bachelor of Arts, Psychology, *summa cum laude, with distinction*, May 2003

HONORS AND AWARDS

Disseration *Exploration of Normalization: A Construct Foundational to Montessori Teacher Evaluation* nominated for The Carnegie Project on the Education Doctorate Disseration in Practice of the Year Award (2017).

RESEARCH AND TEACHING INTERESTS

Montessori education, teacher efficacy, self-regulated learning, cognitive development, education from a sensorimotor and vertical brain model perspective.

HIGHLIGHTS OF PROFESSIONAL EXPERIENCE

WHITE PAPER PRESS | Arcadia, CA | 2014 – present
Think Tank specializing in translating scientific research into terms that allows people to make informed decisions about their lives. Its first publication, *The Montessori White Papers*, challenges society's concept of "school."

Founder, Lead Editor, and Writer

- Write, edit, and publish *The Montessori White Papers*, which correlate the Montessori method with research literature. Subscriptions sold to Montessori schools and teacher training centers around the world.
- Write and present keynotes and workshops on human development, neuromyths, and Montessori education to Montessori educators and parents.

OAK KNOLL MONTESSORI SCHOOL | Pasadena & Altadena, CA | 2007 - 2013
A non-profit, independent Montessori school, serving children ages 18 months to 15 years-old.

Head of School

- Successfully revitalized the school during high risk of closure period by facilitating effective collaboration between all school constituents – administration, faculty and staff, Board of Trustees, and Family Association – using systems theory frameworks and techniques.
- Rebranded the school and significantly improved its reputation via community outreach, parent observations, meetings, and educationals.
- Obtained Association Montessori Internationale (AMI) recognition for the school; balanced pedagogical, student, and faculty needs with school's long-term fiscal needs.
- Doubled preschool enrollment in 1 year; increased elementary enrollment from 8 to 60 students within 7 years; doubled overall revenue within 6 years; obtained new facilities for the elementary and adolescent programs; oversaw $200,000 renovation of two campuses.
- Facilitated the design and implementation of new school programs in collaboration with the Director of Education, including adolescent program and parent/toddler class.
- Oversaw the school's finances and day-to-day operations and supported all personnel.

FOOTHILL FAMILY SERVICE | West Covina, CA | 2006 – 2007
A behavioral healthcare organization providing mental health treatment for families.

Marriage and Family Therapist Intern

- Assessed, diagnosed, and provided treatment for a variety of mental health issues to elementary children and adolescents in a public school setting; conducted family therapy utilizing family systems frameworks and techniques.

CONFERENCE AND WORKSHOP PRESENTATIONS

- Creativity Does Not Arise From Chaos
    - Keynote, *Montessori Australia Foundation Early Childhood Conference,* Brisbane, Australia, March 2016
- Examining Normalization in Practice
    - *Canadian Council of Montessori Administrators Professional Development Workshop*, Toronto, Canada, May 2016
- Mapping A Whole School System
    - *Heads of Schools Forum,* Melbourne, Australia, August 2011.
    - *Indirect Preparation, AMI Refresher Course, Administrative Workshop,* Long Beach, California, February 2011.

- Montessori: The Educational Framework for the 21st Century
    - Speaking Tour, sponsored by the Canadian Council of Montessori Administrators, Ontario, Canada May 2016
- Relationships And The Triangle Theory
    - *The Nature of Montessori, Montessori Australia Foundation Early Childhood Conference*, Gold Coast Australia, March 2014.
- The Brain: It's Not What You Think!
    - *Canadian Council of Montessori Administrators Professional Development Workshop*, Toronto, Canada, May 2016
    - *The Nature of Montessori, Montessori Australia Foundation Early Childhood Conference,* Gold Coast, Australia, March 2014.
- The Core Of Montessori
    - *Montessori Northwest,* November 2015
    - *Guided By Nature, Montessori International Congress*, Portland, Oregon, July 2013.
    - *Montessori Centenary,* Canberra, Australia, June 2013.
    - *Working Together for Our Children, Montessori Australia Foundation Early Childhood Conference*, Adelaide, Australia, March 2012.